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U. S. DEPARTMENT OF AGRICULTURE

REPORT OF:

The Secretary of Agriculture

1958

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UNITED STATES DEPARTMENT OF AGRICULTURE

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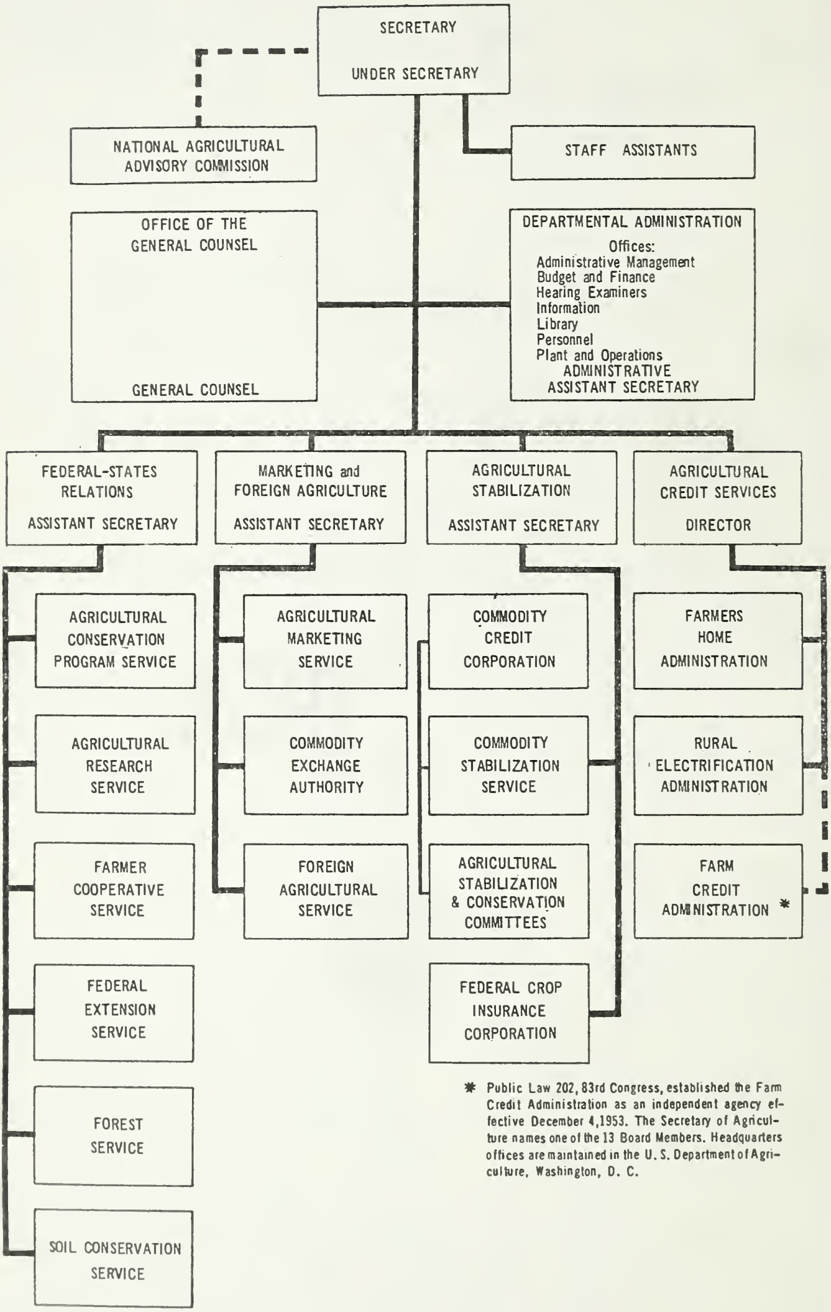
UNITED STATES DEPARTMENT OF AGRICULTURE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FEDERAL CROP INSURANCE CORPORATION
FARMERS HOME ADMINISTRATION
RURAL ELECTRIFICATION ADMINISTRATION
FARM CREDIT ADMINISTRATION *

* Public Law 202, 83rd Congress, established the Farm Credit Administration as an independent agency effective December 4,1953. The Secretary of Agriculture names one of the 13 Board Members. Headquarters offices are maintained in the U. S. Department of Agriculture, Washington, D. C.

Department of Agriculture,
Washington 25, D.C.

THE PRESIDENT,
The White House, Washington, D.C.

DEAR MR. PRESIDENT: This report tells part of the story of how the Department of Agriculture—"the people's Department" as President Lincoln described it nearly a century ago—served not only 20 million farm and ranch people, but the whole Nation during 1958.

In these pages you will find many specific examples of careful, diligent, wise endeavor on the part of thousands of scientists, technicians, administrators, and all the personnel of this great Department. Yet this recital can do no more than skim the surface of a vast area of accomplishment.

So it is fitting that this report should be, above all, a salute to the devoted public servants of the USDA who work *with* agriculture for the benefit of all our people. I submit it to you with that sentiment uppermost in mind.

I transmit herewith the annual report of the Department of Agriculture for 1958.

Respectfully yours,

Ezra Taft Benson

EZRA TAFT BENSON,
Secretary of Agriculture.

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REPORT OF
The Secretary of Agriculture
1958

PROGRESS IN AGRICULTURE

As the Nation entered the year 1958, the economy generally was in a moderate recession. The agricultural economy, however, operated counter to this movement. Farm income went up.

The year was one of general progress for our farmers and ranchers.

> The per capita income of farm people, from all sources, rose to $1,068, a new record.
>
> The value of farm assets, the proportion of farms owned by their operators, and the standard of living of farm families were all higher in 1958 than ever before.
>
> Prices received for farm products averaged 6 percent above 1957 and were the highest since 1953.
>
> The realized net income of farm operators rose to $13.1 billion, 20 percent above 1957, also the best since 1953.
>
> Total assets of our agriculture at the year's end reached $200 billion, and farmers' net equities, after all debts, were $177.4 billion. This was a gain in equities of about $11 billion over a year earlier, and a gain of $134 billion since 1940.
>
> Yields per acre set a new record, 43 percent higher than the 1947–49 average.
>
> Output per man-hour of farmwork was also a new record, 54 percent above the 1947–49 average.

Other evidences of solid progress include the following:

Farm foreclosures were relatively few—near the alltime record low.

Farms are now better equipped and are more mechanized than ever before.

A record high proportion of farms have electricity and telephones.

Exports of farm products were record high for the year ending June 30, 1957—$4.7 billion. Exports continued far above the average for fiscal 1958—$4.0 billion—the second highest of record.

We have greatly expanded our market development activities at home and abroad.

Agricultural research and education are moving forward at accelerating rates. States have kept pace and have substantially expanded their research and extension work.

Forestry developments and soil and water conservation are moving ahead more extensively than ever.

This is solid progress, to be discussed more fully in later pages.

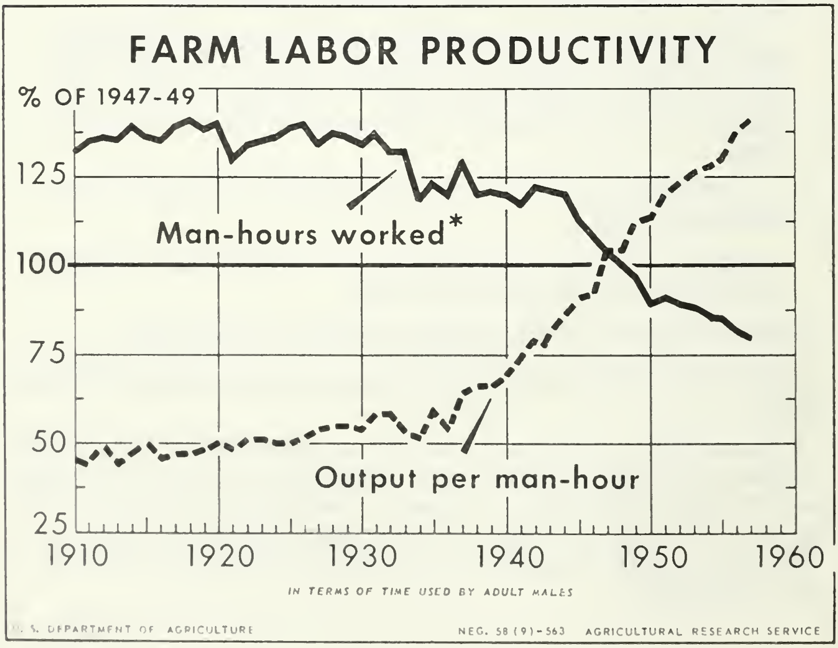
It should be noted that 1958 was another banner year from the standpoint of crop output. Planted acreage was the smallest in 40 years, yet in many crops we had recordbreaking harvests. Generally good weather was one reason. Heavier use of fertilizers, use of improved seed strains, and wider adoption of improved farming techniques also contributed heavily to the per-acre gains.

Despite these encouraging developments, however, we must face up to the fact that all is not well with our agriculture.

Farmers generally are still suffering from the cost-price squeeze, inflation, and related problems.

The inflationary tendency in our economy is one of the most serious domestic problems facing the American farmer and the American people today. The problems and long-term implications resulting from the threat of inflation should be of utmost concern to every American.

Rising costs, especially in the immediate postwar years, have had adverse effects on our Nation's farmers. The cost-price squeeze in agriculture is the aftermath of excessive Federal expenditures, soft wage settlements, undue price rises, and related factors.



* IN TERMS OF TIME USED BY ADULT MALES

U. S. DEPARTMENT OF AGRICULTURE NEG. 58 (9)-563 AGRICULTURAL RESEARCH SERVICE

Between 1939 and 1952 the index of prices paid by farmers including interest and taxes more than doubled—rising from 123 to 287. From 1952 to 1958 the index level rose only 2 percent. But the sharp increase from 1939 to 1952 created problems for our farmers that they are powerless to control. It has adversely affected net farm income and it will continue to do so if the economy is not stabilized.

Higher taxes and other factors have also added to the burdens of our farm people. The real value of bonds, life insurance, retirement programs, and other dollar savings has been eroded.

There is a general lack of understanding of the basic factors underlying inflation. Public interest in the need for reasonable price stability must be stimulated.

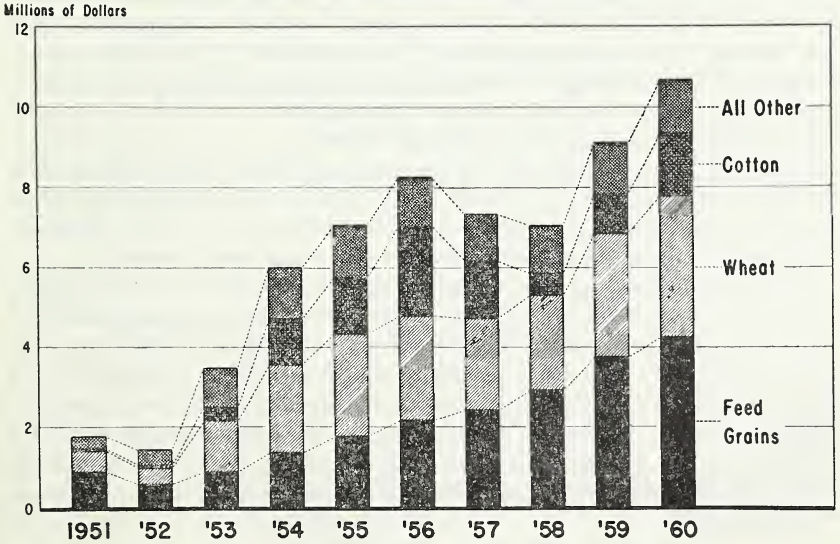
Control of inflation involves the cooperation not only of Federal, State, and local governments but also of private firms, organizations, and individuals. Government can exercise restraint through its control of expenditures and credit. A balanced budget as proposed for fiscal 1960, when enacted, will be a powerful factor in the fight against inflation.

Farmers are also suffering from the harmful effects of the present old mandatory price support and acreage allotment programs.

The programs have obviously failed to fulfill their stated purposes. They have not promoted orderly marketing; they have lost markets by pricing products at unrealistic levels. They have not served consumers by providing adequate reserves; they have led to mountain-

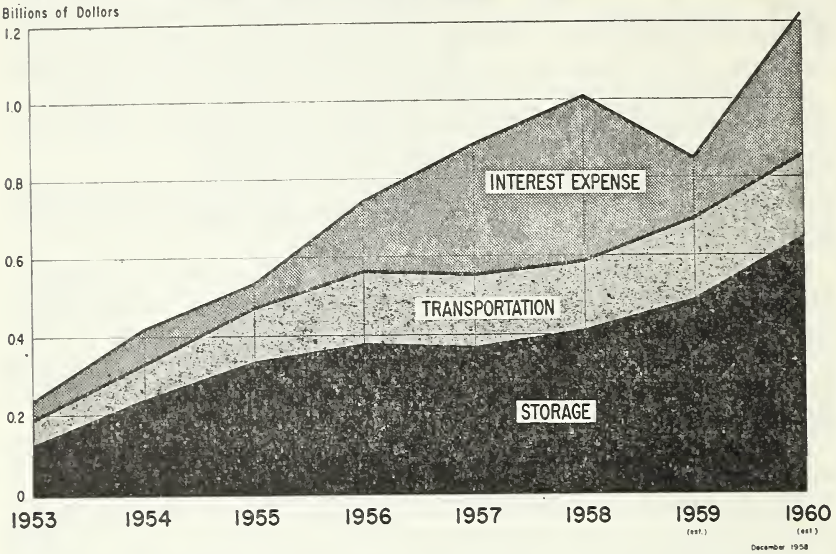
COMMODITY CREDIT CORPORATION

INVESTMENT IN PRICE SUPPORT AT END OF FISCAL YEAR 1951 THROUGH 1960



Note: Feed Grains include corn, barley, grain sorghums, oats and rye.

–December 1958



COMMODITY CREDIT CORPORATION

STORAGE AND TRANSPORTATION COSTS AND INTEREST EXPENSE INCURRED DURING THE FISCAL YEARS 1953 THROUGH 1960

ous surpluses in Government hands—*and a Government warehouse is not a market.*

Realistic price supports can be a valuable tool. We endorse them. But unrealistic supports can be a millstone around farmers' necks.

The law has required that the prices of 12 farm commodities out of the some 250 produced in the United States be supported at not less than certain minimum levels. This mandatory requirement, accompanied by complex but ineffective acreage controls and marketing quotas on the legislatively designated basic crops, has been the basic factor in our farm surplus problems.

Three of these mandatory support commodities (corn, cotton, and wheat) comprised 85 percent of the Government inventory of price support commodities as of July 1, 1958. These same three commodities produce only 20 percent of the total cash farm income.

The Commodity Credit Corporation investment in commodities in inventory and under loan, it is estimated, will approximate $9.1 billion as of July 1, 1959. The investment in commodities for which price support is mandatory will total $7.6 billion. Nearly all of this—$7.5 billion of the $7.6 billion—will consist of those crops designated by law as basic: Corn, cotton, wheat, rice, peanuts, and tobacco. It is anticipated that, with average weather conditions, the total Government investment will be in excess of $10 billion as of July 1, 1960.

Expenditures of the CCC for storage, transportation, and interest on these surplus holdings are estimated at over $1 billion for the 1960 fiscal year. Very little of these expenditures goes to farmers. This tremendous annual cost will likely rise still further unless some fundamental changes are made.

Heavy costs would be justified on a temporary basis if they led to the solution of the surplus problem. But they have not. Price supports at the unrealistic levels now required by law continue to generate surpluses in a few commodities. These must be stored; or if they are disposed of, it is usually at a heavy loss. Every bushel of wheat and every bale of cotton which is currently exported must be subsidized.

It is often claimed that the heavy expenses of these programs are justifiable since they are of special help to small producers. This has not been the case.

Here are the facts for some of the legislatively designated basic commodities:

Wheat—Of the 1.4 million wheatgrowers, 60 percent, or 823,000, have allotments of 15 acres or less. They produce about 13 percent of the crop. The 10 percent of producers with allotments of 100 acres or more produce 55 percent of the crop. Obviously, the major portion of the Government expenditures for wheat relates to the production of the largest farms.

Cotton—Of the 948,000 cottongrowers, 692,000, or 73 percent, have had allotments of 15 acres or less. They have had about 25 percent of the acreage allotment. The remaining 27 percent, or 236,000 farms, have had 75 percent of the allotment. The major portion of the Government expenditures for cotton relates to the production of the largest farms.

Rice—Of the 16,700 farmers with acreage allotments, the 4,600, or about 25 percent, with allotments of 100 acres or more, have about 75 percent of the allotment. The major portion of the Government expenditures for rice relates to the production of the largest farms.

Corn—Of the 1,784,000 farms with allotments in 1957, 1,286,000, or 72 percent, had allotments of 25 acres or less. They had about 35 percent of the allotment. The remaining 28 percent had about 65 percent of the allotment. The major portion of the Government expenditures for corn relates to the production of the largest farms.

This is generally true for the other supported crops.

Such programs can do little to help the farmer in greatest difficulty—the small low-income producer.

Some 2.6 million of our farms, or more than one-half (56 percent of all farms), produce only 9 percent of all the farm products marketed. Problems on these farms are distinctly different from those on the approximately 2 million (44 percent of all farms) which market more than 90 percent of all farm products.

There are large numbers of low-income farms which are too small to produce an adequate income for the farm families that depend upon them for a living.

We are attacking this problem in part through a well-conceived and functioning rural development program approach. The "pilot" or demonstration programs are resulting in spreading activity, especially in the 30 States with the most acute low-income areas and in Puerto Rico.

As for the more productive farms, the basic solution to our agricultural price and income problems obviously does not lie along the lines of Government controls and price fixing.

The commodities that have stayed free of controls and artificial pricing are in the best shape today.

In general, producers of cattle, hogs, poultry, fruits, vegetables, and various other products which are not price supported or controlled have had growing markets. They have not experienced a buildup of stocks in warehouses, expensive to the Government to store and expensive to producers in the downward pressure on markets. Livestock is a good example. The average U.S. consumer in 1958 ate about 50 percent more beef, about twice as much chicken, and 2½ times as much turkey meat as he did about 20 years earlier.

Citrus is another commodity that has stayed free. The average American in 1958 consumed 60 percent more citrus than he did about 20 years earlier.

The markets for these and other "free" commodities have expanded. The contrast with what has happened to the consumption of the controlled and supported basic crops is startling.

For example, consumption of cotton per capita in 1958 was the lowest in 20 years. But the per capita use of rayon has more than doubled in 20 years, and the per capita use of other synthetic fibers has expanded tremendously in the past 10 years.

The legislatively designated basic crops, that have depended the most on supports and controls, are in trouble.

Thirty years ago cotton was planted on close to 45 million acres of U.S. farmland. In 1958 producers planted less than 12½ million acres. Still we have a surplus. U.S. cotton used to hold 60 percent or more of the world market. Now, even with the aid of our export programs, it holds only about 30 percent of the market.

The corn program was so unrealistic that in 1958 only 1 corn acre out of 8 was farmed in compliance with the program. And in November 1958 corn producers in a referendum voted controls out altogether.

Ricegrowers, under the old program, faced almost a 50-percent cut in their acreage allotments for 1959.

The United States produces the best quality tobacco in the world, but our tobacco has been priced out of some export markets. The world's largest tobacco market used to be in North Carolina. Now it is in southern Africa.

Though the market potential of peanuts for food use is large, our farmers are producing more peanuts than consumers will buy at the prices at which peanuts for food *must be supported* under the old obsolete law still in effect.

Wheat is our No. 1 problem. The wheat program as it now exists cannot be continued much longer without disaster. Harvested wheat acreage has been cut by over 20 million acres since 1949—yet, under artificial pricing, combined with good weather, the Nation now has by far the greatest wheat surplus in all history.

The accelerating buildup of stocks of wheat is now expected to reach the alltime high of 1.3 billion bushels as of July 1, 1959. By July 1, 1960, it is expected to be up another 200 million bushels with a total Federal investment of $3.5 billion. Compare this with the very stable use of wheat for food at a little less than 500 million bushels, with per capita use going down.

If we did not grow 1 bushel of wheat in 1959, we could still meet all our current domestic needs—and all our probable export needs—and have a carryover on July 1, 1960, of 325 million bushels.

Neither acreage allotments, as now provided, nor the incentives of the acreage reserve are adequate to control wheat production.

We are facing a crisis in wheat. There is no denying it. There is no escaping it. We have tried for too long to solve our wheat problem with outmoded programs.

The Agricultural Adjustment Act of 1938—over 20 years ago—set a minimum national acreage allotment for wheat of 55 million acres. That minimum remains in effect to this day.

At that time, average yields of wheat were less than 13 bushels per planted acre. In the 1950's the average has been nearly 18 bushels.

Compliance with the allotments and quotas was revised to a harvested rather than planted basis, and yields have shot on up.

In 1956—20.2 bushels per acre.

In 1957—21.7 bushels per acre.

In 1958—27.3 bushels per acre.

Although a national average of over 27 bushels per acre will not occur very often, yields are definitely trending upward.

A normal wheat crop on the minimum allotment would produce at least 1.2 billion bushels—or about 200 million bushels more than our indicated requirements for domestic and export use at current support levels. This would build the carryover higher year after year.

In 1941 Congress provided that wheat farmers producing 15 acres or less would be exempted from marketing quotas. The number of these 15-acre-or-less wheat farms is rapidly expanding—as is the Wheat Belt.

In 1958 these farms planted more than double their allotments. Some 600 million bushels of the 1.5 billion carryover on July 1, 1960, will result from this 15-acre exemption.

These provisions of the law have resulted in the cutting back of acreage in the efficient wheat areas and promoting wheat production in the inefficient areas.

Under the law, moreover, penalities for exceeding wheat allotments are based on normal yields, rather than actual yields. In Kansas, for example, the normal yield as established by formula for marketing quota purposes for the average farm is about 15 bushels per acre. But actual yields averaged 27 bushels in 1958. So a farmer who exceeded his quota paid a penalty on *only* 15 bushels per acre, on the average Kansas wheat farm. He had a "free ride" on the other 12 bushels per acre.

The alternatives before us are clear. Either we must clamp down with more rigorous controls on wheat producers than we have ever had before—more controls than Congress has ever been willing to impose—or we must move toward market expansion and greater freedom to produce and compete.

If we applied the formula in the old 1938 law, still in effect, to wheat in 1959, the national allotment would be zero acres—no wheat production at all!

The better approach by far, I believe, would be to provide wheat-growers with a program that moves toward freedom to produce and compete for markets.

When such a program became fully effective, it would eliminate all acreage allotments and marketing quotas for wheat.

It would relate price supports for wheat to realistic market conditions.

Preferred-quality wheat would then sell in the markets at premiums above support.

With such a program, wheat could really compete on its own merits. Better land use would result. High-hazard land would go into pasture and hay.

Other conservation measures would be adopted by farmers.

Farmers could more effectively manage their farms and their crop rotations.

There would be an adjustment of acreage between such competing crops as corn, grain sorghums, and soybeans.

To sum up, in the past 6 years we have endeavored to strip off the straitjacket of unsound rigid price supports and ineffective acreage controls and rid agriculture of the heavy burden of price depressing surpluses.

We have made progress toward sounder programs through the Agricultural Act of 1954—the Act of 1956—and the Agricultural Act of 1958.

These were limited steps in the right direction. They were slow steps, short steps. None of these laws, however, nor all of them combined, made anywhere near all the program changes that were asked for—all the program changes that were needed. On some commodities—tobacco for example—nothing has been done. On others a little flexibility has been provided but not nearly enough.

Our technicians estimate that even the little legislation obtained on price supports has resulted in expanded markets and has cut costs to taxpayers by a billion dollars in 1958.

Further revision of the farm programs must be completed without delay. The Nation wants programs that will not freeze agricultural production patterns in such a way that they cannot be adjusted to changing circumstances. The Nation wants programs that will serve producers and consumers by using our abundance—and that will not unfairly bring down upon the head of agriculture the angry hand of an aroused people.

To help farmers meet their problems realistically we must consider the dynamic qualities of today's agriculture—the accelerating sweep of technological advance.

The scientific revolution in agriculture is irreversible, cumulative, and continuous. In recognition of this basic fact, we must—

> Utilize more completely the abundance our farm people are now able to produce;
>
> Find ways of further expanding outlets for the increased production;
>
> Provide realistic price supports and other stabilization programs for our farm people;
>
> Preserve and strengthen our free institutions.

The following pages indicate some of the many ways in which the U.S. Department of Agriculture attempted to help farmers meet these and numerous other problems during 1958.

FEDERAL-STATES RELATIONS

Agricultural Research Service

A Virginia canner grew 2,400 pounds of shelled lima beans to the acre in nematode-infested soil with a new nematode-resistant plant developed by agricultural research while the common susceptible variety yielded him only 800 pounds to the acre.

Florida citrusgrowers have good reason to believe that their $400-million-a-year industry has been protected from a serious threat, because the last Mediterranean fruit fly was found there in November 1957.

Ricegrowers and millers can expect greater yields of unbroken rice plus an annual savings of $4 million a year because of an improved method for drying rice announced this year.

Owners of more than 2 million dairy cows were enrolled during the year in one of the plans of the National Cooperative Dairy Herd Improvement Program, thus taking important steps toward increasing the efficiency and lowering the cost of milk production.

Homemakers throughout the country were provided with a simple daily guide, called "Food for Fitness," to help them choose a better diet for themselves and their families.

These are some of the people throughout the United States who benefited because agricultural research and development programs were conducted in fiscal 1958.

Crops Research

ARS research scientists are concerned with changing and developing plants so farmers can produce them more efficiently to serve more specific consumer requirements. The search for new lines and crosses of plants is centered on finding plant genes that will produce the necessary yields and quality as well as carry built-in resistance to insect pests and diseases.

Nematode-Resistant Lima Bean

Nemagreen, a nematode-resistant lima bean that has proved strikingly effective in nematode-infested soils of Virginia, was developed through the cooperation of the Hopi Indians with State and ARS scientists.

In field tests during the past 5 years, Nemagreen yields were slightly lower than other varieties on nematode-free soils. But on soils infested with the root-knot nematode, the new variety can produce three times the yield of ordinary varieties.

Seedgrowers have now produced enough stocks for commercial companies to furnish agricultural producers and gardeners in the nematode areas.

New Flax Variety Resistant to Rust and Wilt

Arny, a new rust- and wilt-resistant flax variety, developed cooperatively by the University of Minnesota and ARS, was released to growers in Minnesota, North Dakota, South Dakota, Iowa, and Wisconsin for 1958 planting. Arny has given good yields in tests at various locations in the North Central area. Slightly superior to some varieties in oil quality and similar to other recommended varieties in oil content, it is immune to prevalent races of flax rust and resistant to other known races of rust. Arny surpasses other varieties in wilt resistance and is less susceptible to pasmo, a fungus disease of flax, than any of the late maturing varieties.

Male-Sterile Cotton Plants

A new chemical treatment developed by ARS and the Texas Agricultural Experiment Station may have opened the door for a practical hybrid cotton. Though a hybrid cotton has long been considered one of the best means of improving cotton yields and quality, a practical method of preventing self-pollination had not been developed.

Chemical sprays have now been found that prevent pollen development in some cottons. Resulting male-sterile plants can set seeds, but only through pollination by other plants. Further methods and techniques are needed to provide practical hybrids, but the important first step has been taken.

Oats Resistant to Race 264 Crown Rust

Five new rust races, an alarming menace to oat producers, were recently reported in the United States. Most commercial varieties of oats are susceptible to one or more of these new and particularly virulent rusts.

An emergency program to find resistant varieties was started in the winter of 1957–58 in Puerto Rico with the cooperation of ARS. Seeds of more than 4,800 different oats were assembled for use in the program. First tests were directed at finding resistance to the most virulent of the new rusts—Race 264. Eleven resistant oat strains were found through the emergency program.

Development of new varieties from these resistant strains through conventional methods could take, normally, about 10 years. However, by speedup methods of backcrossing, resistant varieties suitable for commercial production could be ready for growers in about 6 years or less.

New Wilt-Resistant Tomato

After 5 years of greenhouse and field testing, ARS has developed Pink Shipper, a new pink-fleshed, wilt-resistant tomato. Uniform and smooth, Pink Shipper averages about 2½ inches in diameter and weighs over 5 ounces.

The new tomato will yield well on wilt-infected soils of either field or greenhouse. A crop grown from medium-size transplants becomes ready for picking in about 75 days, but may ripen in 65 days during warm weather. Seed was available from commercial dealers in the spring of 1958.

Control for Stem Rot of Peanuts

New and practical measures for controlling the destructive stem rot diseases of peanuts have been developed cooperatively by ARS and peanut-producing States. Stem rot, or southern blight, has caused losses of from $10 to $20 million annually to peanut growers.

The new control measures consist of (1) plowing fields so that all surface debris is covered with clean soil to a depth of 3 to 4 inches; (2) planting on flat or slightly raised beds; and (3) cultivating so that no soil is thrown against the stems of the plants during growing season.

Using this new information the value of Spanish peanuts was increased 32 percent in Georgia experiments.

New Variety of Sweet Sorghum

Southern California farmers have a new variety of sweet sorghum as the result of a plant-breeding program. Brawley, the new variety, was released for commercial culture by ARS and the California Agricultural Experiment Station on April 17, 1958. In the Imperial Valley of California, Brawley can produce two crops a year from one planting, or approximately 50 tons per acre. Stalks of Brawley are mid-juicy, and the juice has a higher sucrose content than any current commercial variety.

Livestock Research

Value of ROP Testing

Virginia's beef cattle producers during the past year reaped the benefits of a statewide cattle improvement program based on research.

About 150 herds are participating in Virginia's record-of-performance (ROP) testing program. ARS research has shown that a bull's early performance in rate of gain, conformation to carcass type, and feed-use efficiency are closely related to that of his offspring. By keeping records of a young bull calf's performance, the cattle breeder can predict the animal's potential value to the herd without waiting until he is 2 or 3 years old. Records also show which herd bulls and cows are actually producing the best calves. These records help cattle producers rapidly improve their herds.

For example, test records in Virginia comparing the performance of two bulls, similar in appearance, show that weanling calves of one bull average $12 a head more than those of the other.

The statewide ROP testing program in Virginia was the first organized effort of its kind. Similar programs have since been started in other States.

More Knowledge About Foot-and-Mouth Disease Virus

The virus causing the livestock infection foot-and-mouth disease was purified, isolated, and photographed for the first time during 1958 at the ARS Plum Island Animal Disease Laboratory. Electron micrographs show that the virus is spherical and about one-millionth inch in diameter, the smallest virus affecting animals ever seen.

The virus has been purified into two components—a larger particle representing mostly the specific and infective portion, and a smaller particle mainly concerned in serologic tests. A heat-resistant variant of one strain of foot-and-mouth disease virus has been separated from heated tissue culture and propagated as a distinct entity.

Foot-and-mouth disease affects cattle, swine, sheep, and goats—as well as all other cloven-footed animals—and is of great economic importance all over the world. The United States has been free of the disease since 1929. If it should break out, rapid eradication would be vital. More knowledge of the physical makeup of the virus will help speed research on development of new and effective means of fighting the disease.

High-Quality Grass Silage in Bunker Silos

Dairy producers are concerned with the most suitable and economical type of structure to use for storing grassland crops for feed.

Studies conducted by animal husbandry and agricultural engineering scientists showed that losses of nutrients can be minimized in low-cost bunker silos if the silage is properly packed and protected from the atmosphere and rainfall. Heavy losses in forage and in feed value occur when high moisture (direct cut) forages are stored in conventional tower silos. These losses can be reduced by wilting the forage before it is stored.

High-moisture forage stored in a tower silo with an added preservative lost 20.9 percent of the dry matter stored. When wilted forage was stored in a similar silo, dry-matter loss was 13.8 percent. Test cows consumed more feed and produced more milk when they were fed the wilted rather than the high moisture silage.

Results comparable to those obtained from wilted silage in tower silos can be had with direct-cut forage by the proper use of the much less expensive bunker silos. When high-moisture forage with preservative was stored in a well-sealed bunker silo, dry-matter loss was 14.8 percent and the quality and feeding value of the resulting silage were comparable to the wilted silage in the tower silo.

High Feeding Value of Cooked Garbage

Studies conducted cooperatively by ARS and the Virginia Agricultural Experiment Station demonstrated that good-quality cooked garbage has high feeding value for swine.

Test pigs refused only about 1 percent of the cooked garbage compared to a reported 25 to 40 percent refusal of conventional city garbage. Forty-pound feeder pigs, full fed on cooked garbage, averaged (on a dry-matter basis) a pound of gain on 2.36 pounds of feed. An estimated 50 to 60 pounds of uncooked city garbage are required per pound of gain. Garbage feeding has no measurable effect on such carcass characteristics as backfat thickness or hardness of fat.

Cooking garbage before feeding provides additional safeguards for control of such swine diseases as vesicular exanthema and hog cholera as well as the human disease trichinosis.

Dairy Herd Improvement Program

More than 2 million dairy cows, 10.3 percent of the Nation's total, were enrolled during the year in the three recordkeeping plans making up the National Cooperative Dairy Herd Improvement Program. This cooperative program between ARS and the State extension services has been an important factor in herd improvement for more than 50 years. Dairy recordkeeping has proved its value as a means of increasing efficiency and lowering the cost of milk production by enabling herd owners to (1) cull low-producing cows, (2) feed each cow according to production, and (3) select the best stock from which to breed herd replacements.

The three plans offered in the program provide different services to fit the needs of different dairy operations. The number of cows in the Weigh-a-Day-a-Month Plan (started in the fall of 1956) increased by 273.2 percent during calendar year 1957. In the same period, the number of cows enrolled in the Standard Dairy Herd Improvement Association plan increased by 4.7 percent and the number in the Owner-Sampler plan by 21 percent.

National Poultry Improvement Plan

Birds in flocks participating in the National Poultry Improvement Plan reached an alltime high of more than 39 million during the year. Owners of about 67,000 flocks in 47 States are taking part in the national program sponsored by ARS. Its major objectives are breeding improvement and the control and eradication of poultry diseases, with specific emphasis on pullorum and typhoid.

Participating flocks are those in which no reactors to pullorum or typhoid were found in the qualifying test. In the initial test of the year, 18,000 reactors were found, amounting to only 0.045 percent of the birds tested, the lowest record in the 22-year history of the NPIP. About 95 percent of the birds in participating flocks qualified as U.S. Pullorum-Typhoid Clean.

Commercial hatchery participation in NPIP included a total egg capacity of about 384 million, or about 73 percent of total estimated hatchery capacity of the United States—the highest participation on record.

Utilization Research

One phase of ARS research aims at broadening markets for agricultural products by developing new uses and more effective methods for industry to process farm products.

New Cotton Opener-Cleaner

A new machine for cotton textile mills, combining superior bale-opening and blending abilities with outstanding efficiency in cotton cleaning, was released to industry during the year.

Development of the new device—known as the SRRL (Southern Regional Research Laboratory) Opener-Cleaner—comes at a time when greater efficiency and economy in handling trashy cotton is more important than ever before to the cotton textile industry. As cotton production becomes more mechanized, the proportion of machine-harvested or hand-snapped cotton is increasing. This cotton contains large amounts of trash.

The SRRL Opener-Cleaner operates at high cleaning efficiency and with only half the lint loss of existing textile cleaning machines.

New Rice Drying Method

An improved method for drying rice, developed cooperatively by ARS and California growers, offers the possibility of greater yields of unbroken rice and increased drying-plant capacity. Annual savings to ricegrowers and millers are estimated at $4 million.

The new method increases milling plant capacity by as much as 58 percent, head yield by 2.5 percent, and total rice yield by 1.5 percent, employing conventional drying equipment now in use. The method involves raising the temperature of the air used in the dryers and increasing both the speed of the rice and the number of times it travels through the dryer.

Industrial Chemical From Vegetable Oils

During the year over 10 million pounds of vegetable oils were used to make a chemical product called dimer acid. ARS research over a 10-year period has helped to develop this large outlet.

New uses for the chemical have recently been found in manufacturing flexible and rigid foams, coatings for concrete, and glass-fiber laminates. Other outlets have been in resins used in making paints, adhesives, paper coatings, and sealing compounds for metal, paper, and other containers; production of heat-stable plastics for die-casting molds, thickening agents for gelled paints; and the compounding of plasticizers, lubricants, insecticides, and emulsifying agents. This illustrates how a farm crop, through chemical research, can be transformed and sold competitively on the basis of quality and price.

Better Quality in Frozen Foods

Various segments of the frozen-food industry have adapted the results of 8 years of intensive research released by ARS.

The studies were designed to learn what quality changes occur in frozen foods during distribution and to develop tests for measuring the extent of these changes. As a result, processors made improvements in the processing of peaches and green beans which have significantly bettered quality.

An All-Industry Task Force, representing frozen-food packers, distributors, warehousemen, railroads, truckers, retail grocers, the U.S. Department of Agriculture, and others interested in the frozen-food industry has been formed to speed adoption of ARS research findings designed to improve the quality of frozen foods.

Industry spokesmen say this research has provided information that could open up a still untapped $2 billion market for frozen foods.

Entomology Research

In their continuing search for safer, more efficient pesticides, entomologists discovered new insecticides, derived from chrysanthemumic acid, that are less toxic to warm-blooded animals than any insecticides now in general use.

New parasites and predators were found to help control important crop pests. Three species of parasites, introduced from abroad to help control the spotted alfalfa aphid, have become established in the southwestern United States. One species is abundant in California, chiefly in late spring and early fall; a second has increased and spread over many hundreds of miles in Nevada, New Mexico, and Arizona; a third, which has become established at release points in California, shows special promise in Arizona and other locations where alfalfa grows throughout the year and where the aphids are continually present. These introduced parasites, together with native lady beetle predators, are helping materially to reduce spotted aphid damage to alfalfa.

Home Economics Research

A simple daily guide, entitled "Food for Fitness," to help in choosing a good diet was released during the year. The plan features four broad food groups—milk, meat, vegetables or fruit, bread or cereal—from which to plan the family diet and assure the basic requirements of protein, vitamins and minerals, fat, and carbohydrates. The guide suggests ways to manage quantities and selections of food from each major group to provide these requirements.

Farm Economics Research

Farm economics studies continued to provide new information on the current status of the farmer's financial returns, production, assets and debts. Net farm incomes were higher in 1957 than in 1956 on 20 of the 31 types of commercial farms covered by the study. In 1957 net incomes on typical family-size farms ranged from a high of about $15,370 on wheat-pea farms in Washington and Idaho to a low of about $1,430 on specialized poultry farms in New Jersey.

Vertical integration was studied during the year as a relatively new influence on the agricultural economy. A farmer vertically integrates his operation by sharing some of his managerial decisions and risks in production and marketing with one or more related businesses—for instance, his supplier, processor, or distributor. Economic studies have shown that the practice is spreading widely to more types of farming. Various methods of integration are being used. The studies point out some of the advantages and disadvantages to the farmer of various methods of integration.

Basic Research

We must do more pioneering research to develop basic scientific knowledge. Ten new pioneering research groups were established during the year to look for the unknown in agricultural sciences. Other groups are being organized. Scientists are at work developing such subjects as:

New information on how nutrients get from the soil into plant root cells—such knowledge is basic to an understanding of plant growth.

Insight into the process by which antigens—substances in animal blood that may hold the key to better livestock breeding—are formed in red blood cells.

Progress in finding out how the mechanism in plants, responsive to light, triggers seeds to germinate, flowers to bloom, and trees to stop making leaves and develop buds.

Success in solving current problems at any given time depends fudamentally on continuing the expansion of knowledge through basic scientific study.

The 10 pioneering groups established during the year will work on the following subjects: Mineral nutrition of plants, blood antigens, plant physiology, microbiological chemistry, seed proteins, plant fibers, allergens of agricultural products, cellular metabolism, insect pathology, and insect physiology.

Plant Pest Control

Plant pests attack and cause great damage to the Nation's food, feed, and fiber crops. The goal of eradicating plant pests is a relatively new approach to the problem. In earlier years the emphasis was on control of insects and pests to reduce the losses while continuing to "live with" them.

Successful efforts to eradicate plant pests have proved that this approach is feasible, even though complete eradication is not always possible or practical. Where the means have not yet become available to eradicate some extensive infestations, control programs are being continued.

The Mediterranean Fruit Fly

Florida fruit and vegetable growers have reason to believe that their industry—valued at $400 million annually—is once again safe from the Mediterranean fruit fly. Since November 1957, not a single Medfly has been caught in more than 30,000 traps set out in the State. The year before, the fly had spread over 700,000 acres in 28 Florida counties. When the last spray was applied February 25, 1958, a total of 7 million acres had been sprayed in the series of multiple treatments.

Grasshoppers

The most widespread control effort of the year was waged against the worst grasshopper infestation since 1949. A total of 5 million acres was sprayed in the Federal-State cooperative program. Largest acreages hit by the pests were in Colorado, Texas, Kansas, Wyoming, and Oklahoma. Lesser acreages were also involved in Arizona, Idaho, Montana, Nebraska, New Mexico, and South Dakota. In addition to the cooperative program, individual farmers treated their own cropland. Plant pest control officials counted the cooperative program highly successful in protecting large acreages of wheat, row crops, and grass.

The Gypsy Moth

The long-range program against the gypsy moth was continued during the year. The final objective is complete eradication of this serious pest that has been an expensive enemy to forest and shade trees since 1890. This year's efforts included spray programs in Rhode Island, Connecticut, Massachusetts, New York, and Maine. An outbreak of gypsy moths in one area of Michigan in 1954–55 was eliminated by a spray program. However, continuing surveys have shown the presence of a few of the pests outside the originally treated area, and spraying will be continued in the State.

The Imported Fire Ant

An eradication program against the imported fire ant was begun in the fall of 1957 in 9 Southern States. Outlying infestations are first treated to prevent further spread of the pest; then the eradication line moves forward until the fire ant has been wiped out. Infestations are scattered over nearly 20 million acres and the job has just begun.

Other Major Pests

California fruit and nut growers are counting heavily on evidence that the destructive insect Hall scale has been eliminated. Surveys during the year revealed no infestations in the two California counties where the eradication program was aimed at heavy infestations.

Southwestern grain dealers were protected by the continuing program against the khapra beetle. During the year 113 storage properties were wrapped in gastight tarpaulins and fumigated. Progress is being made in the fight against this pest of stored grains, but more work must still be done before it is eliminated.

Carolina farmers will benefit from an eradication program against witchweed, started in the spring of 1958. This parasitic flowering plant by the end of the fiscal year had infested 1,783 farms in North and South Carolina. Its principal host crops are corn, sorghum, and sugarcane. Damage caused by the parasite usually increases each year of infestation, finally resulting in total crop failure.

Plant Quarantine

Plant quarantine inspectors in fiscal 1958 stopped 18,198 lots of destructive plant pests before they gained entry into the United States. Interceptions included Mediterranean, Mexican, West Indian, cherry, oriental, and olive fruit flies; pink bollworm; golden nematode; citrus blackfly; melon fly; black spot of citrus; citrus canker; and Mediterranean land snail. During fiscal 1958 more than a third of the 121,231 airplanes and slightly less than a third of the 59,180 vessels inspected carried unauthorized plant material. About 17 million pieces of baggage were inspected in cooperation with U.S. customs. More than 19 million vehicles and 89,000 freight cars arriving from Mexico were inspected for plant materials. More than 68,000 cargoes of plant material were imported under permit, and about 24½ million containers of domestic plants and plant products were certified for export.

Animal Disease Eradication

Programs to control or eradicate animal diseases that cause serious damage were carried out during fiscal 1958 in cooperation with State governments and organizations.

Screwworm

An all-out eradication program was undertaken against the screwworm, a pest causing estimated livestock losses of $20 million a year in Florida and portions of Georgia, Alabama, Mississippi, and South Carolina. Male screwworm flies that have been raised in a laboratory and sterilized by radiation are released over infested areas. When sterile males greatly outnumber the normal male flies, eggs from most female flies do not hatch. At the end of fiscal 1958 a new laboratory was ready to produce and sterilize flies on a mass basis.

The objective is to overwhelm existing fly populations with sterile males until the last female produces sterile eggs.

Brucellosis

The number of cattle blood tested under the bovine brucellosis eradication program was increased by slightly over 2 percent in fiscal 1958 to a total of 16,251,440. Even so, the number of cattle reacting to the test dropped slightly to 1.6 percent, or to 260,322 reactors. Of these reactors, 97.7 percent were removed from the herd and slaughtered.

During fiscal 1958, the following eight States achieved the status of Modified Certified Brucellosis Free (with no more than 1 percent of the cattle and 5 percent of the herds infected): Connecticut, Vermont, Rhode Island, Pennsylvania, Utah, New Jersey, Michigan, and New Mexico. In all, 15 States and Puerto Rico have reached this status; also 490 counties achieved certification status, bringing the total to 1,217 counties, an increase of 65.6 percent over the previous year.

Vesicular Exanthema

In fiscal 1958, for the first time since the swine disease vesicular exanthema broke out of California in 1952 and spread into 42 States, no case of the disease was found in the United States. The success of the eradication program during the past 6 years is based mainly on expanding the practice of cooking garbage fed to swine. This practice was supplemented by quarantines, inspections, and disinfection. By June 30 only four counties in one State (New Jersey) still remained under partial quarantine because of the disease. Only mopping-up jobs remain to be finished before the Federal-State eradication program will be completed.

Animal Quarantine

Animal inspectors at our international borders and at air and ocean ports inspected and passed for entry about 1,129,000 animals and about 27,800 birds classed as poultry. In addition, 15,350 animals and 399 poultry birds were inspected and refused entry because of a disease or pest that might otherwise be spread among the herds and flocks of this country.

The inspection service checks on imported animal byproducts including hides, skins, bones, bonemeal, wool, hair, and casings. More than 818,259,000 pounds of these imported animal byproducts were inspected.

Meat Inspection Service

At the close of the fiscal year, the Federal Meat Inspection Service was being provided in about 1,300 establishments located in 518 cities and towns. Currently 80 percent of the meat and meat food products produced commercially are processed for interstate use and bear the purple stamp or legend on the can, package, or jar, attesting to Federal inspection and approval.

In carrying out inspection responsibilities, Federal meat inspectors examined approximately 97,600,000 animals before and after slaughter. More than 97,300,000 carcasses were passed as wholesome and fit for consumption.

Almost 16,792 million pounds of meat and meat food products and over 2 billion pounds of canned meat products were inspected in the course of processing.

Cooperative Agricultural Extension Service

Four years ago the J. S. family of Pennsylvania faced a crisis. Their farm costs were up and their income down. With four children to rear and educate, and hopes of college for each, the picture was not bright.

One son hoped to farm with his father some day. To provide for this and for adequate family income would require a major reorganization of the farm business, a larger operation, or outside income. After discussing their situation with their county agent, the family decided the Extension Service farm and home planning program offered the type of help it needed.

Careful analysis of the family's farming operation revealed that with major changes the farm could provide adequate income to meet family goals. These changes included a larger dairy herd, new cropping and forage programs, and the elimination of cash crops, poultry, and swine once milk production reached the planned level. The family enlarged the dairy barn, installed laborsaving equipment, built a new silo, and began using Dairy Herd Improvement Association records.

In 4 years, annual milk production per cow jumped from 7,500 to more than 11,000 pounds. The family attributes this to close culling, better forage, and better feeding practices. The farm is now a two-man operation and the family faces the future with assurance.

As the educational arm of the Department, the Cooperative Extension Service is responsible for helping people to use departmental research, educational, and action programs in solving their problems. This nationwide system of off-campus education in agriculture, home economics, and related subjects is conducted jointly by the Department and the land-grant colleges in cooperation with county governments.

The Federal Extension Service administers cooperative extension work through the State land-grant colleges and universities under Federal laws governing this work. It is responsible for leadership and coordination of all educational work of the Department and for providing national leadership in the development and execution of extension educational programs in the States and counties.

In calendar year 1957, county extension workers assisted a record 11 million families to adopt improved farming or homemaking practices. This was 6 percent more than in 1956 and an average of 1,000 families per extension agent.

4–H Clubs

Membership in 4–H Clubs reached an alltime high in 1957 of approximately 2,200,000 members in some 90,000 clubs. About 1,300,000 homemakers were assisted in improving homemaking practices through organized clubs, and 5,500,000 were assisted through other teaching methods. Ten million persons were helped in the selection and use of agricultural products through Extension consumer information programs. Extension agents also worked with several thousand cooperatives, farm supply firms, marketing agencies, and county and community organizations.

Extension work seeks to adjust programs and methods to the everchanging needs and problems of people. The past 3 years have seen two major efforts in this regard.

One is a nationwide undertaking to help rural people understand and appraise needed adjustments in the light of new technology and other changes in agriculture and rural living. Since 1955, Extension workers have helped farm families, business and civic groups, and educational leaders make a systematic analysis of local needs, problems, and resources in more than 1,500 counties. Local people have developed comprehensive long-range plans, including adjustments in Extension educational programs, for achieving their goals.

During the past 2 years Extension has made a comprehensive study of its programs, policies, and objectives to assure that its resources are being used most efficiently in meeting changing needs and problems. This self-appraisal identified nine major areas where intensified Extension educational work is needed. Extension programs will center on these nine problem areas in the years ahead.

As noted in another section of this report, FES is taking an active part in the Rural Development Program along with other Federal departments and agencies.

On the Farm

The tremendous social, economic, and technological changes taking place in American agriculture demand drastic adjustments by farm people. Extension workers stepped up their educational efforts in helping rural people to understand the scope, causes, and the impact of these changes, and the adjustments they demand.

In Iowa, for example, an expanded educational program is underway on agricultural resource adjustments. Through meetings, bulletins, newspaper stories, radio and television programs, and other means, Extension workers are helping farm families to understand the situations they face and how they can make needed adjustments.

Nationally, more than 1,100,000 farmers participated in discussion and study led by Extension workers on problems and proposals affecting agriculture and rural life.

Extension workers placed major emphasis on helping farm families increase their efficiency through improved managerial and technical skills. More than 1,600,000 farm families were assisted by Extension workers in some phase of planning and managing their farm business.

Extension workers in more than 75 percent of the Nation's counties are working intensively with farm families, either individually or in groups, to develop longtime farm and home plans. Known generally as Farm and Home Development, this work is aimed at helping farm families improve their efficiency and managerial skills, make needed adjustments, improve their level of living, and adjust production to market demands. The dollar value of this work can best be seen in a recent study of the financial records of 98 Arkansas Farm and Home Development families.

During 1 year alone, these families showed a gain in labor income of 27 percent over the average Arkansas farm family. Seventy-two of the 98 families increased their net income by more than $1,000. "It is amazing," reports the Arkansas Extension Service, "how these families cut unit costs, increased efficiency, and greatly increased profits in spite of lower yields in the case of cotton farmers and only slightly higher yields in the case of dairy farmers."

Helping farm families make sound application of new research findings and technology is a basic responsibility of Extension workers. Performance testing techniques developed by Department and State experiment station research workers are being used by Extension workers to help beef producers improve efficiency and the market value of their livestock. Extension workers are providing leadership in standardizing procedures for farm and ranch testing, and in training cattlemen to evaluate and record performance of their animals as a basis for selecting breeding stock. Beef cattle performance testing programs are underway in 41 States, and in 8 States Extension workers have helped cattlemen organize State associations to service their expanded performance testing programs. Increased weaning weights and higher market prices are two of the values resulting from such work.

In a few short years, soil testing has become the accepted way of determining soil fertility needs. In 1957, Extension agents assisted farmers make nearly 2 million soil tests, an increase of 500,000 since 1955. Just as important, however, is educational work with farmers on how to use soil tests as a basis for determining fertilizer needs. Extension workers assisted 1,219,000 farmers in making proper use of fertilizers, and aided a total of 2 million farmers with various phases of soil management in 1957.

Paralleling the rapid increase in the use of soil tests is the use of higher analysis fertilizers by farmers. For many years Extension workers have carried on intensive educational work to teach farmers how to purchase plant food on a cost per unit, rather than price per ton, basis. Farmers are now saving an estimated $75 million annually as a result of using higher analysis fertilizers.

The total value of the seven-step cotton improvement program underway in the Cotton Belt for 1957 is estimated at $166 million. This joint program of research and education is now in its 12th year. Records of cost of production kept by some 3,500 farmers who have volunteered to demonstrate recommended cotton production and marketing practices show a saving of $42.90 per acre over average production costs.

Extension educational work on improved cotton quality is producing remarkable changes in harvesting and ginning practices. During the past 3 years, Extension workers have conducted training schools for more than half of the Nation's 22,000 mechanical cottonpicker operators on defoliation, weed control methods, and stripper operations. About 4,000 persons have attended similar schools for gin operators. It is conservatively estimated that this educational work resulted in $15 million additional income to cotton farmers in 1957.

Thanks to a widespread brucellosis eradication program, American farmers are saving an estimated $62 million annually. Even more important is the immeasurable effect on human health.

Intensive educational work on brucellosis eradication has been carried on since 1954 through the cooperative effort of the Extension Service, the Animal Disease Eradication Division of the Agricultural Research Service, the livestock industry, and other interested groups.

When this accelerated educational program started in 1954, only 341 counties were certified modified brucellosis free. By June 30, 1958, this number had increased to 1,217, with many additional counties carrying on intensive eradication programs.

Assisting farmers and others in the safe and effective use of insecticides and chemical weedkillers continues to be an important task. Extension agents in 1957 made more than 7½ million insect control recommendations. The total savings from such educational work can only be conjectured. Arkansas Extension workers estimate, however, that as a result of Extension's educational program on insect control, cotton farmers saved $93 million. And Texas Extension agents estimate they helped farmers save $15.6 million through improved weed control methods.

Marketing Programs

Greater production efficiency demands development of maximum efficiency in marketing, distribution, and utilization of agricultural products. Extension marketing work is directed at reducing marketing costs, expanding market outlets, and providing information to consumers on the price, availability, and uses of agricultural products.

The 1957 turkey crop illustrates how such efforts work to the advantage of producer, processor, distributor, and consumer. Missouri felt the impact of record turkey production early in the year. Extension workers quickly set about to inform consumers about the availability, price, quality, and various uses of turkey meat. They worked closely with producers and processors in stepping up preparation and packaging of new turkey products, such as turkey roll, and in informing the public about speciality turkey products.

From April through August, Extension consumer information specialists provided information on turkeys to radio and television stations, newspapers, food retailers, and other outlets having direct contact with consumers. Summer consumption of turkey was the largest on record in the St. Louis area. Fall movement of larger size turkeys was likewise stepped up. The Missouri turkey industry credits this work as having played a major part in reducing December 1957 turkey holdings to less than 25 percent of holdings the previous year—in spite of a record turkey crop.

Home Demonstration Work

Demands from homemakers for assistance from county home demonstration agents continue to rise. In 1957, home agents assisted a record 6,873,000 women—5 percent more than in 1956—in solving problems related to home management, foods and nutrition, housing, clothing, family financial planning, and other areas of home economics. In one State, for example, requests from homemakers throughout the State for instructions on making over children's clothes were so numerous it became necessary to use mass media in presenting this information.

Actual teaching was done by television, supplemented by other mass media methods. More than 6,000 women enrolled in the series of lessons presented over one TV station. In one county, more than 2,000 women were reached by Extension for the first time through this series of lessons.

Educational Work on Government Farm Programs

Extension workers played an important role in helping farmers and others understand the provisions of Government farm programs, and in helping farmers determine the extent to which they could profitably participate in such programs. Extension educational work on Government farm programs centered on helping people understand the need for human resource adjustment as well as for land use and production adjustments.

Information prepared by Federal Extension Service workers on the Effects of the Conservation Reserve Program on Needed Agricultural Resource Adjustments was widely used by State and county Extension workers in conducting local meetings on the soil bank. In Kansas this information served as a basis for training meetings on the soil bank held by State Extension specialists for county agents and representatives of other departmental agencies. Important implications of the soil bank to Kansas farmers were pointed out in a leaflet prepared by the Kansas Extension Service for use by farmers. Many Kansas farmers used budget forms developed by State and Federal Extension workers in determining the extent they should participate in the Conservation Reserve.

Farmer Cooperative Service

The following extract is from a cooperative manager's letter to the Farmer Cooperative Service:

> **"The studies and recommendations you made are realistic, show real understanding of our operations and problems, and indicate clearly the steps we should now take to achieve the cooperative objectives for which we were organized."**

One of the agency's main objectives for the year was helping farmers adjust their cooperatives to changing marketing conditions. FCS aided a large regional cooperative to establish a State livestock marketing association which is setting up country concentration points and operating a central sales agency to sell hogs direct to packers.

During fiscal 1958, the Farmer Cooperative Service completed about 80 projects and issued 56 new and revised publications to get the results of this work out to the 10,000 cooperatives serving 3 million farmers and to the leaders and educational personnel who work with them.

The FCS made studies on successful economic integration in two cooperatives; extensively analyzed methods of financing farmer cooperatives; and made a number of studies on the request of cooperatives considering possibilities of merger and consolidation in response to changes in agriculture.

Two important studies to strengthen cooperative management were started during the year: One a survey to determine management training needs, the other a comprehensive study of directors in regional cooperatives. Topnotch performance by directors and employees is essential for the future success of farmer cooperatives.

Improving Cooperative Operations

FCS assisted a west coast berrygrowers' cooperative which found its membership decreasing and total tonnage and volume of sales leveling off. After studying operations of this cooperative, at its request, FCS recommended plant changes to increase efficiency and reduce costs, suggested ways to improve membership relations, and made specific recommendations to strengthen the financial structure.

An FCS study of large dairy manufacturing cooperatives revealed striking differences in operating costs among plants. The study stimulated greater cost consciousness among these cooperatives and an increased awareness of the need for improved accounting data and operating efficiency. The findings are expected to increase returns by many thousands of dollars.

Another FCS study analyzed the role and possibilities of bargaining cooperatives as marketing agents to serve growers now at a competitive disadvantage because of the trend toward fewer and larger processors, lack of reliable market information, and high product perishability.

Other FCS Services

Proper management of inventories and credit is a major problem for farm supply cooperatives. A series of FCS studies and reports are being used by farm supply cooperatives as yardsticks against which to measure their own inventory and credit practices.

FCS gathered nationwide statistics on rural credit agencies during the year and surveyed and issued a detailed report on operations of 42 rural credit unions sponsored by countywide farm supply cooperatives in Indiana.

The agency issued its annual statistical report based on a continuing yearly survey of the nearly 10,000 marketing and farm supply cooperatives in the United States. It is now developing measurements of the relative importance of major services and functions performed by marketing and farm supply cooperatives.

Intensified Educational Activities

FCS participated in a series of conferences held by Midwest livestock cooperatives. These were the beginning steps toward a coordinated hog-marketing program for Ohio, Illinois, and Michigan. Uniform grades and standards have already been established, and information on rates and charges, customer requirements, and other pertinent items have been exchanged.

In cooperation with Foreign Agricultural Service, FCS sent a staff member to study and report on trade opportunities with cooperatives in Japan. During the fiscal year, 550 foreign participants, representing 52 countries, received individual or group training by the Farmer Cooperative Service.

Agricultural Conservation Program Service

We have a continuing national need to shift more surplus crop-producing land into long-term protective cover. The Agricultural Conservation Program stresses conservation practices that helped farmers retire cropland to grass and trees.

Farmers using 1957 [1] ACP cost-sharing established 4.7 million acres of grasses and trees. They shifted 4.4 million acres into permanent-type, high-quality grasses and legumes, and they planted 283,000 acres of trees. The acreage planted to trees was 45 percent greater than in the previous year.

Nebraska with 477,000 acres, South Dakota with 378,000 acres, and Minnesota with 352,000 acres of grass and legumes led all the States in seeding long-term vegetative cover. Mississippi, Florida, and Alabama led in tree planting with 33,000 acres, 29,000 acres, and 24,000 acres, respectively.

These accomplishments were due in part to an increased educational program. Extension agents, vocational agriculture teachers, soil conservation districts, technicians, and others, as well as the local committees, informed and encouraged more farmers concerning the conservation and monetary values of grass and tree cover.

Local committees utilized more fully the ACP purchase order provision. This helped farmers secure trees, tree planting services, seed, minerals, and other conservation materials and services more easily from dealers and contractors without having to advance all the cash themselves.

Besides shifts in land uses from cultivated crops to grassland and trees, the 1957 ACP encouraged and helped bring about the establishment of many other soil- and water-saving measures.

It aided farmers in solving specific and urgent conservation problems. It helped to correct the current imbalance in agriculture by assisting farm people in sound production adjustments. It helped assure consumers of a ready potential for increasing supplies of food and fiber whenever such increases should be needed.

The 1957 ACP shared with farmers and ranchers in the States and Territories the cost of applying on individual farms approved conservation practices needed to improve and protect soil, and conserve agricultural water resources. These cost-share practices constituted a well-balanced conservation program of long-term and important short-term measures.

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[1] Figures for 1958 will not be available until December 1959.

The ACP is administered nationally by the Agricultural Conservation Program Service. In the States and counties it is administered and adapted to meet local problems by Agricultural Stabilization and Conservation Committees.

County extension agents and local technicians representing the Soil Conservation Service and Forest Service, together with representatives of other agricultural agencies and organizations, help ASC farmer committees develop local programs.

Such cooperation helps the committees to "gear in" their local ACP with other agricultural programs and related efforts.

The flexibility of the ACP enables local committees to do a better job of meeting the specific needs of farmers in each county. For example, cost-share rates for individual practices in counties are reviewed and adjusted according to local needs. Nationally, the rates for cost-sharing average about 50 percent of the cost of performing the practices. Farmers make substantial contributions to the cost of practices in the form of cash, labor, materials, and use of equipment.

To help solve conservation problems that affected more than one farm, but could not be solved by farmers working individually on separate farms, ACP cost-sharing was used on 16,131 farms in 1,593 "pooling agreements" in 38 States. Although pooling agreements were not confined to water conservation purposes, most of them were for water collection, storage, or disposal.

To rehabilitate farmlands damaged by hurricane and flood, the ACP also provided cost-sharing for 2,425 farmers in 10 States to carry out emergency conservation measures during the latter half of the 1957 program year. Emergency funds were made available by the Congress for conservation practices in addition to those measures financed under the regular ACP program.

During the 1957 program year, 1,161,349 farms, with 34 percent of the Nation's total eligible farmland, established a wide variety of conservation practices with ACP cost-sharing. Among their 1-year conservation accomplishments, in addition to permanent-type grass and trees, farmers established:

Timber stand improvement	228,000 acres.
Improvement of permanent grass and legumes	1,945,000 acres.
New water storage reservoirs	69,600 dams.
Stripcropping	732,000 acres.
Standard terraces	857,000 acres.
Temporary conservation cover	7,600,000 acres.
Sod waterways	2 billion square feet.
Lime for conservation cover	15.9 million tons.
Spreader and diversion terraces	28,398,000 linear feet.
Irrigated land leveling	324,000 acres.
Emergency tillage	3,513,000 acres.
Stubble mulch	7,075,000 acres.
Drainage for conservation farming	1, 137, 000 acres
Control of competitive shrubs on range and pasture	1,239,000 acres.

Although the ACP works directly with farmers on farmland, the entire Nation benefits either directly or indirectly from its operations. There is a continuing need for conservation to assure an ample reserve of agricultural resources for our fast-growing population in an unstable world situation.

In addition to its responsibilities in administering the Agricultural Conservation Program, the Service also (1) carried out its responsibilities for the conservation practice phases of the Conservation Reserve Program, (2) provided leadership in developing a national list of conservation practices for use under the Great Plains Conservation Program and reviewed, jointly with the Soil Conservation Service, the practices developed for use in the Great Plains States.

Soil Conservation Service

J. S. bought a rundown 90-acre farm in Hancock County, Ohio, in 1949. Most of the sloping land was eroded severely, while some of the level land was too wet to farm except during drought years. Yields were very low on all cropland. The pastures were covered mainly with wiregrass. Gullies were numerous.

In 1950, S. applied to the Hancock County Soil Conservation District for technical help in planning a conservation program for his farm. A soil scientist from the Soil Conservation Service was sent to the farm to make a soil survey. He completed the survey and prepared a land capability map. From this map, S. and an SCS technician made a conservation plan for the entire farm.

They agreed that the land was better suited for dairying and poultry raising than for corn and hogs, for which it had previously been used. A conservation crop rotation of corn, small grain, and 3 years of meadow was planned for the cropland. Grass waterways were established in natural drainageways. A tile drainage system was installed on the wet lands. Soil samples were collected and tested. Heavy applications of lime were made to most fields, as needed. A fertilizer program calling for about 1,000 pounds per acre during each rotation period was worked out and put into effect. The pastures were limed, fertilized, and reseeded to adapted grasses and legumes. The 9-acre woodlot was thinned, all cull trees and obnoxious vines being eliminated. Multiflora rose hedges were planted around the woods, to serve as living fences and food and cover for wildlife. Cost-sharing payments from the Agricultural Conservation Program helped S. finance some of these conservation improvements.

During the past 8 years, crop yields have tripled on the S. farm. The 1-cow dairy herd has grown to 19 milkers that average 11,000 pounds of milk a year. The poultry flock consists of 600 laying hens that average nearly 300 eggs per year. All farm buildings have been modernized. The mortgage has been paid off, and S. plans to expand his dairy herd to 30 milk cows. Some years ago it looked as though S. would have to take a part-time job in town to make ends meet. Now S. and his wife consider the operation of this 90-acre farm a satisfying full-time job.

Nearly 1.8 million farmers and ranchers cooperated with their local soil conservation districts and received technical aid from the Soil Conservation Service during the fiscal year 1958. These conservation farmers and ranchers not only conserve and improve the soil, and conserve the water from which the Nation must subsist, but most of them also improve their own economic status by increasing their net income.

During the fiscal year, the Soil Conservation Service provided technical assistance to about 2,791 soil conservation districts in all the States and Territories. These districts are legal subdivisions of the State or Territory in which they are located. Governed and operated by farmers, ranchers, and landowners within their boundaries, they have definite programs and work plans to fit the local needs. Approximately 94 percent of all farms and ranches and about 89 percent of all agricultural land in the Nation are now in these locally administered conservation districts.

As the soil and water conservation program continued to expand in 1958, the scope of the Soil Conservation Service's responsibilities and activities increased. This Service had whole or partial responsibility for administering or providing technical assistance on 15 programs of the Department. In addition to serving the 2,791 soil conservation districts, the SCS responsibilities included: The national soil survey; works of improvement on 11 watersheds authorized for flood prevention; demonstration of the value of watershed treatment measures on 54 pilot projects; cooperation with local organizations in watershed protection projects as authorized under Public Law 566; leadership in the long-range Great Plains conservation program; cooperative snow surveys and runoff predictions for 11 Western States; leadership in the Department's conservation needs inventory; providing technical assistance on the Department's interagency river basin investigations; providing statistical and technical data to State legislative and executive agencies on conservation problems, especially on water rights and water conservation; completion of water conservation and utilization projects under the Case-Wheeler Act; providing technical aid on soil and water conservation problems to the agricultural conservation program, and the soil bank, rural development, and conservation loans programs.

Encouraging Trends

Several significant and encouraging trends were noted during the year. State and local agencies displayed greater interest and assumed more leadership.

Many States increased funds for clerical and other aid to soil conservation districts. Some States provided for watershed planning parties to supplement existing SCS planning services on watersheds eligible for Federal assistance.

County and township governments also increased their participation in the conservation program. A notable number of such local governing bodies gave both financial and physical support to the conservation movement. Heavy equipment, used primarily for road building and maintenance, was made available for earthmoving conservation jobs in more localities. Municipal and other local government agencies also contributed more, both in financial and physical assets, toward advancing the conservation movement.

A trend toward increased participation in the conservation movement by privately owned corporations and companies and non-landowning individuals and groups was noticeable. Industrial firms that get most of their raw materials from the land gave more support to types of conservation that can assure them continuing supplies. Farm equipment manufacturers and dealers devoted more attention to better types of conservation equipment.

The most pronounced development in local leadership, however, has been the increased activity of soil conservation districts, watershed associations, and other local organizations concerned mainly or wholly with soil and water conservation work. Such local organizations are assuming leadership and taking more responsibility. Where urban or municipal interests have teamed up with agricultural interests in a community, the conservation program has advanced much more rapidly than in others. In some cases urban leaders and city people have been drawn into the conservation movement because of floods or threats to municipal or industrial water supplies.

In other cases, however, they have adopted conservation as a major objective simply because they know conservation serves to keep their community, State, and the Nation strong and progressive.

The 17 plant materials centers operated by SCS and cooperating agencies continued to make a notable contribution in the evaluation and use of better adapted plants and improved cultural techniques for soil conservation. During the past year, for example, the useful range of Blackwell switchgrass, originating in Oklahoma, was extended to North Carolina and New York.

Another significant development is the expanding use of soil surveys.

During fiscal 1958, SCS scientists completed soil surveys on about 41 million acres and range-site surveys on 13 million acres. SCS technicians helped 91,335 farmers and ranchers develop basic conservation plans for about 28 million acres. This brought the total land included under such plans to nearly 350 million acres. Technicians also helped with the revision of about 13,000 farm and ranch conservation plans, including more than 6 million acres.

In addition, SCS provided technical assistance on about 3,500 water-management group projects affecting some 5 million acres.

Watershed Protection and Flood Prevention

Little Delaware and Mission Creeks rise in Brown County, Kans., and flow in southeasterly and southerly directions until they meet, just south of the county line, to form the Delaware River. The combined watersheds of the two creeks contain about 28,000 acres, most of them highly productive farmland. In the past, soil erosion has been severe on much of the sloping farmland. The rich valleys were flooded frequently, causing heavy loss of crops, livestock, and soil,

and severe damage to roads, bridges, railroads, and public utilities. Flood damages averaged about $30,000 a year.

A concerted attack on the soil erosion problem was planned and started soon after the Brown County Soil Conservation District was organized in 1940. But land treatment alone was not enough to stop the frequent floods.

When the "pilot" watershed program was authorized by Congress in 1953, the farmers and other citizens of these two small watersheds petitioned for a project. A watershed planning party from the Soil Conservation Service made a survey of the area and helped the local organizations develop a watershed protection plan. It called for full conservation treatment of all farmland plus installation of 8 floodwater-retarding structures with a combined capacity of more than 3,000 acre-feet and 21 smaller gully-control and stabilizing structures. The total cost of the project was about $956,000, of which the Federal Government contributed about $584,000, mainly for installation of the flood-prevention and stabilizing structures. The balance of the cost is being borne by the farmers and local government agencies.

By the summer of 1958, all of the major structures in the watershed were completed and about 80 percent of all needed land treatment was in effect. Nearly 4.5 inches of rain fell on the watershed in less than 24 hours during that summer. Flood damage was negligible. Before the watershed protection program was established, flood damages from similar rains totaled thousands of dollars.

The bottom lands can now be safely farmed, the sloping hillsides are keeping their topsoil, and the railroads, roadbuilders, and public utilities are benefiting from reduced maintenance costs.

The watershed-protection program will save an estimated $23,000 or more annually in flood damages. The conservation benefits to the land will amount to about $160,000 a year. The taxpayers of Brown County will eventually save about $140,000 in bridge building costs alone by substituting permanent culverts for the more expensive bridges, often undercut and rendered useless, which they had been building.

Similar work is being done on 53 other pilot watersheds, including more than 3 million acres in 34 States, exclusive of work being done by Forest Service and other Federal agencies. Operations were started on all these small watersheds in 1953. Structural work has been completed on 23 of the watersheds and the remainder are scheduled for completion during the next 3 years. Structural work completed during the fiscal year included: 32 floodwater-retarding structures which hold back 15,600 acre-feet of floodwater; 57 stabilizing and sediment-control structures; 38 miles of channel stabilization and improvement; and 54 miles of roadside erosion-control work. Land treatment work has been progressing at an accelerated rate.

In addition to pilot projects, local organizations have submitted 887 applications for similar assistance on other small watersheds under provisions of Public Law 566, the Watershed Protection and Flood Prevention Act of 1954, as amended. These applications cover more than 69 million acres.

Planning assistance by SCS technicians has been authorized for 364 of the small watersheds and work plans have been prepared for 100. Conservation land treatment is progressing satisfactorily on all watersheds and structural operations have been started on 90 of them.

Flood prevention work continued in the 11 authorized watersheds (act of 1944) covering more than 30 million acres. Structural measures have been planned for 158 subwatersheds, containing about 14 million acres, and planning is proceeding in other subwatersheds as rapidly as local interest and support warrant. The flood-prevention work installed in these 11 watersheds during fiscal 1958 includes 131 floodwater-retarding structures; 989 stabilizing and sediment-control structures; 114 miles of channel stabilization and improvement; and 195 miles of roadside erosion control.

Great Plains Conservation Program

L. B. and E. B. of Brule County, S. Dak., signed the first Great Plains conservation contract in that State during the spring of 1958. Cooperators with the Brule-Buffalo Soil Conservation District since 1944, the B.'s had already installed most of the needed soil and water conservation practices on their 1,834-acre livestock farm, with ACP cost-sharing aid on many of the practices. But the press of farmwork and lack of finances had prevented them from completing all of the conservation work they had planned. They believe their Great Plains contract will enable them to finish the job within the 4 years the contract runs.

Their Great Plains contract calls for them to plant 9 acres of additional tree windbreaks, construct 2 more miles of level terraces, continue conservation crop rotation on 150 acres, and plant tame grasses on 11 acres of cultivated land. They will construct 250 rods of cross fencing, pit 70 acres of rangeland, seed 50 acres of depleted range to native grasses, construct 3 additional stock-water dugouts, and carry out proper range use on 1,360 acres. Under this contract they will receive $2,240 in cost-sharing funds from the Federal Government over the 4-year period.

L. B. says: "A Great Plains producer can plan his conservation operations years ahead and be assured of needed cost-sharing, as soon as the practices are completed."

The Great Plains conservation program was officially launched in August 1957, and the first contracts signed in December 1957. By June 30, 1958, 575 farmers and ranchers had signed contracts covering about 1,829,000 acres. They will retire about 60,000 acres from cultivation and plant them to grass during the next 3 to 5 years. Other soil and water conservation measures will be applied as needed.

Snow Surveys

In cooperation with Federal, State, and local agencies and private enterprises, SCS obtained accurate snowpack information on about 1,250 snow courses in the Western States during the winter and early spring of 1958. The early spring estimates of the amount of water available for irrigation helped farmers plan their cropping systems and provided information regarding probable water supplies during 1958, including the possibility of floods.

Conservation Needs Inventory

A national county-by-county inventory of soil and water conservation needs now under way is the most comprehensive factfinding job of its kind ever undertaken. When completed in 1960, it will provide the first reliable measure of the size of the conservation job remaining. An inventory of small watershed project needs is also being made.

Other Programs

SCS technicians continued to assist agricultural conservation program participants with permanent-type practices on which cost-sharing was requested. Such assistance was provided on about 430,000 farms and ranches.

The Service provided technical assistance to about 13,000 soil-bank participants during the year. This included general counseling as well as direct assistance in selecting lands for contract and installing treatments for longtime protection.

Assistance was provided to the Farmers Home Administration in its conservation loans program, and technical aid on soil and water conservation measures was given to participants in the rural development program.

Technical assistance and consultation on soil and water conservation problems was provided to various State and Federal agencies, and cooperation with the Army Engineers and Bureau of Reclamation on river basin investigations continued.

Forest Service

According to preliminary figures, a record 1½ billion trees were planted mainly on State and private land in 1958.

It was the best fire control year to date for both public and private forest land: 3.2 million fewer acres burned than in the previous calendar year.

Recreation visits to national forests reached an unprecedented 68½ million—7½ million above calendar year 1957. Operation Outdoors, Part I, was activated to improve and expand recreation facilities.

A series of regional and State meetings were scheduled to find ways of increasing timber growth on small private forest holdings.

The Timber Resources Review final report was published—the most complete appraisal ever made of the country's timber situation and projected future needs.

Forestry research continued to advance in developing new wood products, using more of the tree, increasing water yields, and growing, managing, and protecting forests.

Timber cut on national forests during fiscal 1958 totaled 6.4 billion board feet, bringing $86,275,209 in receipts.

Forest Service work is devoted to three major functions: Management of the national forests, cooperative work with States and private forest landowners, and forestry research. The basic objective is to develop, use wisely, and conserve essential natural resources—water, timber, forage, outdoor recreation, wildlife, and minerals.

Water—The Essential

Across the Nation there is growing concern about adequate supplies of usable water. Within the past 5 years more than 1,000 communities—with 15 percent of the Nation's people—have had to ration water. As the population and economy swiftly expand, water use grows apace. Consequently, forests, the indispensable regulators of streamflow, take on added significance.

National forests, containing 181 million acres, protect watersheds that supply this vital commodity to large industries, thousands of communities, lakes and streams for outdoor recreation, and to millions of acres of irrigated farmlands in the West.

Management of these lands has always included protection of water quality. Now, with the growing need, more attention is being directed toward increasing water yield.

Watershed improvement projects to stabilize soil and get better runoff control were increased 25 percent in fiscal 1958. Work was under way on 90 projects in 65 national forests, compared to 55 projects on 43 forests in fiscal 1957. Benefits from this work include reduced flood damage potential to communities and farms, less sediment in municipal and irrigation water, and improved fishing streams.

Watershed protection—State and private lands: Forest land is involved on 7 of 11 projects authorized by the Flood Control Act of 1944. Forestry flood prevention measures were continued on these seven projects. On the Little Tallahatchie and Yazoo projects in Mississippi, 45 million trees were planted on 48,322 acres of flood and sediment-producing lands.

Emergency flood-prevention funds were used to reduce threat of damaging floods from newly burned areas on seven watersheds in California. Quick-growing grasses and other plants were seeded on 43,730 acres of mountain watershed lands.

Through cooperative efforts, planned forestry measures for watershed protection and flood prevention were completed on 25 of the pilot projects authorized by the Agricultural Appropriations Act of 1954. On two of these—the North Fork of the Broad River in Georgia and Twelve Mile Creek watershed in South Carolina—1,278,000 trees were planted on 1,402 acres.

Forestry assistance was provided, through State foresters, on 58 small watersheds under Public Law 566, 83d Congress (Watershed Protection and Flood Prevention Act of 1954). Four of these watersheds involve national forest land.

The impacts of Federal flood control and water development projects on national forests and other forest lands were appraised in connection with the Columbia River Basin, the Upper Colorado River Basin, and the lower Mississippi and tributaries area. Reports on 16 projects in the Columbia River and the Upper Colorado River Basins were submitted to construction agencies. In the lower Mississippi area, this cooperative approach required extensive survey of some 4,420,000 acres of forest lands.

Watershed research: Changing high-altitude snow cover, by altering density or pattern of timber stands, offers hope of increasing water yields from western mountains. On a 714-acre watershed in Colorado, where half the timber was clearcut in strips, streamflow was increased 24 percent.

Research, involving manipulation of vegtative cover, to increase water yield is under way on the Beaver Creek watershed of Arizona, where agriculture has suffered critical water shortages. In these efforts to increase streamflow, however, other forest resources—forage, timber, wildlife, and recreation—are carefully considered.

Timber for a Growing Nation

Timber cut from national forests in fiscal 1958 totaled 6.4 billion board feet, bringing in $86,274,611. Receipts were about $20 million less than in fiscal 1957 because of a slack period in the lumber market. On the other hand, volume of timber sold hit a record peak—8 billion board feet, exclusive of Alaska.

More than a million acres of national forest land were reforested or given other forms of timber-stand improvement, such as pruning and thinning. Twelve Forest Service nurseries produced and distributed 111 million seedlings and transplants.

"Timber Resources for America's Future," a 700-page report of the Timber Resources Review, the most comprehensive study ever made of the Nation's timber resources, was published in March 1958. By the year 2000, the report shows, the United States will need to double its timber growth to supply the wood needed by a population expected to reach 300 million.

Where will the additional timber come from? The report clearly points out that more intensive forestry will have to be practiced on all forest land, but particularly on the 55 percent of the Nation's commercial forest land held by farmers and other small private owners. Most of this acreage, in some 4½ million ownerships, is now under little or no management. Putting it to work growing timber is the most urgent forestry task in the Nation today. This is not only the key to future timber supplies but an opportunity for farmers and other owners of small woodlands to add to personal incomes.

To meet this challenge, the Forest Service scheduled a series of regional and State meetings throughout the country for the fall of 1958. The plan called for active participation by State forestry departments. The purpose was to explore every technique and means advanced by foresters, woodland owners, and others to make this vast forest acreage more productive.

Aerial photography is a valuable tool in surveying national forest resources and boundaries. Almost 31,000 square miles of national forest were photographed for timber inventory, management, and mapping purposes during the year. To speed up work in mapping and boundary surveys and to take the surveyor out of the pack-mule class, helicopters were used to transport crews to high mountain peaks.

National forest survey: Timber inventories were completed on 50 million acres of private and public commercial forest lands. This includes initial surveys on 14 million acres in Alaska, the Rocky Mountains, and Maine, and resurveys of 36 million acres mainly in Wisconsin, South Carolina, Montana, Oregon, and Washington.

Cooperative forestry—State and private: The program to furnish tree-planting stock to private landowners, under the Clarke-McNary Act, achieved a new record in fiscal 1958—764 million trees. Most of the increase was in the Southern States.

Through the Cooperative Forest Management Program, with special attention given to owners whose acreage was too small to hire private foresters, 58,752 woodland owners were assisted. This was about 1 percent of the Nation's total small forest owners. They received almost $10 million from products harvested. The Federal contribution was $1,510,000.

Technical management help, ranging from simple to highly specialized, was provided by the Forest Service to other Federal, State, community, and private agencies, forest industries, colleges, forest consultants, and landowners. Emphasis was placed on "pilot" counties in the Rural Development Program. Many of these counties have two-thirds or more of their area in forests.

The Forest Service, cooperating with State Foresters in the second year of the conservation reserve of the soil bank, provided technical help and trees to plant 425,000 acres. More than a million acres are now under contract for tree planting.

With the aid of soil-bank funds, cooperating States have constructed nursery facilities to produce 700 million seedlings annually for field planting under conservation reserve. Thus, tree planting can be completed in most States within a year after the last contract signup period.

Assistance to States for tree planting authorized by Title IV, Agricultural Act of 1956, was started; 17 States submitted 21 acceptable reforestation plans, covering 41,000 acres in fiscal 1958.

Protecting forests: **Nationwide forest fire prevention and control efforts are showing impressive results. In calendar years 1957 and 1958, fires on both public and private lands were held to their lowest score. In 1957, for the first time, the annual number of fires was below 100,000 (83,392), and area burned was under 4 million acres (3,409,038). Forest fire damage was about half that of the previous year. Preliminary figures for calendar year 1958 show an even better record with the total number of fires (national forests and protected State and private lands) at 78,416, and total acres burned 1,292,954.**

Fire record—national forests: Of a total of 7,217 fires in 1957 on lands protected by the Forest Service, only 3,305 were man caused. The previous year man-caused fires totaled 4,797 out of 12,466. In 1957 only 141,191 acres burned—116,580 fewer than in 1956 and far below the 5-year average (1952–56) of 250,131 acres. Preliminary figures for national forests, calendar year 1958, show 11,050 fires, with area burned reduced to 120,000 acres.

Much credit for the good fire control record goes to the stepped-up attack with aircraft and chemicals. Air tankers dropped 637,000 gallons of water and borate slurry on fires in 1957—four times as much as the year before.

Fire record—State and private lands: Here, too, the reduction in fires over 1956 was equally impressive—down 42 percent. The area burned was 48 percent less—3.2 million acres compared with 6.2 million in 1956. Most of this reduction was in the South. Figures for calendar year 1958 on State and private lands under organized protection show 1,172,954 acres burned. Fire figures for 1958 on unprotected State and private lands were not available at the time of this report.

In the cooperative fire control program, now including 45 States and Hawaii, there were 396 million acres under organized protection. This is about 91 percent of the total job that needs to be done, according to a joint study by State forestry agencies and the Forest Service, completed in 1957. On the 39 million acres of unprotected land, the percentage of burn was 20 times that on the protected area.

Direct expenditures for cooperative fire protection totaled $52.2 million, 18 percent of this being Federal funds. The joint study shows that an expenditure of $83.5 million per year is needed to achieve a desirable degree of protection on all forest lands.

Insects and disease: Though not as spectacular as fire, forest pests do far more damage. Good results, however, were achieved in the continuing battle against these forest enemies. More than 100 outbreaks of destructive bark beetles were controlled. This involved treatment of 326,600 infested trees. On 1,720,000 acres, three large and several small epidemics of defoliating insects, mainly spruce budworm, were brought under control by aerial spraying with insecticides. Many small outbreaks of miscellaneous insects were checked in the early stages of developing epidemics.

Under cooperative agreement, 18 States took part in 36 projects to control forest insects on State and private lands. In addition, an estimated 1.2 billion board feet of infested, dead, down, and susceptible timber were logged by commercial sales to control and avoid epidemics as a first defense against forest pests.

Control of the white pine blister rust disease was continued on national forests; States, counties, and towns continued to participate in this work on non-Federal lands. On all ownerships, 618,000 acres were treated, 900,000 acres examined to determine need of treatment, and 35 killing infections removed from white pine crop trees.

Forestry and wood research: Like most scientific inquiry, this Forest Service function goes on continuously, knows no boundary lines. It ties in with private research and that done by other public agencies. When a new use for wood is found, a better species of tree developed, or a forest pest brought under control, the private tree grower benefits along with public forests.

A farmer's fence posts may last up to 10 times longer if treated with a wood preservative developed by Forest Service scientists. New disease-resistant pines, developed by geneticists, mean larger tree crops. A new lumber dryer which captures heat from the sun cuts regular open-air seasoning time in half. These research results, along with hundreds of others, help the average citizen, the timber grower, the processor, the seller, and the user of wood.

Two forest fire laboratories for basic research will soon reinforce efforts in this field. One at Macon, Ga., built by the State, will be staffed by the Forest Service on a cooperative basis. Plans were made for another at Missoula, Mont. Research workers regard these as milestones in man's long struggle to control wildfires.

Chemical sprays achieved good results against the Virginia pine sawfly, the needle sheath miner, and the white pine weevil.

Hormones can make trees grow faster. Gibberellic acid applied to seedlings of eastern cottonwood, sycamore, yellow-poplar, sweetgum, cherrybark oak, willow oak, and southern red oak increased growth from 75 to 350 percent.

Red alder shows promise as a soil-improving species. When it was interplanted with Douglas-fir in the Pacific Northwest, nitrogen content of the soil and Douglas-fir foliage increased up to 50 percent. The future management of cottonwood and willow in the Mississippi Delta looks bright. Yields of 50 cords per acre are possible in 15 years for cottonwood and in 25 years for willow.

Research continues to show the way to greater use of plentiful low-grade hardwoods. A new 50-ton-per-day commercial mill, being built in northern Minnesota, will make book paper by combining the pulp of hardwoods and balsam fir. Another new process combines hardwood and softwood pulps to make liner board for corrugated boxes.

Wood and its residues will be an important source for chemicals within 10 years, forest scientists predict. High-pressure hydrogenation (combining or treating with hydrogen) of wood provides a means of making cyclic alcohols, phenols, and higher molecular weight chemical compounds potentially suitable for manufacture of plastics, fibers, solvents, and drugs. The process under development offers promise in converting waste wood and lignin to commercially useful materials.

Forage

Forage for both domestic stock and game animals is an important product of national forest lands. These lands helped stabilize the economy of local communities through grazing allowance for 1,108,579 cattle and 2,623,106 sheep on 61,625,158 acres. This represents reduction of 26,218 cattle and 115,605 sheep from the previous year.

On the Great Plains project, grazing is the main use on about 6 million acres of the 6½ million in land utilization projects administered by the Service. Paid permits numbering 4,877 were issued for 240,840 cattle and 88,288 sheep on land utilization areas.

Grazing receipts for both national forest and land utilization lands totaled $3,711,245.

The Forest Service, cooperating with other Federal agencies and private interests, continued to improve equipment and restore usable vegetation on wild lands. This was accomplished through brush removal, seeding, spraying noxious plants, plowing, pitting, and contouring on 120,900 acres of national forest land. About 6 million acres still need treatment.

Range research: Forage yields in California were increased by converting woodland brush to grass. This resulted in 130 percent more cattle-days of grazing per acre, a 47-percent longer season, and a 55-percent increase in weight gain per animal. Wildlife habitat was also improved, and openings made in the brush will aid fire control.

In Louisiana, eradicating undesirable hardwoods raised grass production from 675 pounds to 2,415 pounds per acre. The control of low-grade hardwoods with herbicides in the Missouri Ozarks increased grasses and legumes from 219 to 1,213 pounds per acre.

Observations in the Northwest indicate that in some localities insects may consume or damage more vegetation than livestock and big game combined. Exploratory studies of insect collections on bitterbrush found 80 species representing 45 insect families.

Recreation for Millions

The American people are rediscovering their outdoor heritage. As the population grows and cities become more crowded, people are turning more and more to woods, field, and streams for relaxation. National forests have been feeling this growing pressure since 1945. In 1957, 61 million visits were made to campgrounds, lakes and streams, picnic sites, and winter sports areas of these public lands. This was a 16-percent rise over the previous year, well above the average annual increase of 11 percent for the 10-year period following World War II. In 1958, visits rose to 68½ million.

Operation Outdoors, Part I, the 5-year plan to improve national forest recreation use now and in the next few years, moved forward. The $9,500,000 appropriated for fiscal year 1959 will assure adequate policing, cleanup, and maintenance of the 5,600 developed areas; rehabilitate and expand present areas; and develop some new ones.

"*Oldest living things on earth*" was the description scientific journals gave of ancient bristlecone pines on the Inyo National Forest in the White Mountains of California. Wood scientists found that one of the trees was 4,600 years old, and others were in the 3,000- to 4,000-year age group. Precautions have been taken to protect the trees for historical and scientific purposes.

Special uses of national forest land are rapidly increasing. About 57,000 special use permits were in effect in fiscal 1958, authorizing use of these lands for resorts, stores, telephone rights-of-way, mineral leases, summer homes, and organization camps.

Wildlife Habitat

National forests provide a habitat for one-third of the big-game animals of the country—deer, elk, and bear—as well as for birds and millions of small-game animals and furbearers. About one-fourth of national forest recreation visits are for hunting and fishing. The 16 million such visits in 1957 compared with about 5 million in 1947—a 227-percent growth in 10 years.

To meet this expanding use, all regions added one or more professional wildlife men during the year and conducted on-the-ground training courses in wildlife habitat management.

Research: Big-game habitats can be improved by seeding and planting. On winter deer range in Utah, trial plantings were made of 475 shrubs and forbs, including 85 species. Antelope bitterbrush and fourwing saltbrush appeared most promising.

Minerals

Steady progress continued in determining surface rights of mining claims under the Multiple Use Mining Act of July 23, 1955. Of the 90 million acres on which surface right determinations are to be made, field examinations had been completed on 30 million by June 30, 1958.

Administrative Management

National forest lands as of June 30, 1958, comprised 180,820,040 acres in continental United States, Alaska, and Puerto Rico. Land utilization projects and other related lands came to 7,081,623 acres, making a total of 187,911,663 acres of public lands being administered by the Forest Service.

Receipts from national forest lands, for timber sales, grazing, and other uses, amounted to $91,545,820; an additional $2,290,775 from land utilization projects brought total gross income to $93,836,595. Of this gross income, 25 percent is returned to States to benefit roads and schools in counties with national forest or land utilization areas.

A new staff arm, an internal audit unit within the Chief's office, was established to independently appraise all operational, managerial, and financial activities of the Service.

The Service continued to perfect its workload analysis procedures to obtain more effective use of manpower and funds. This involved measuring workload in various units and establishing job and workload standards. It is proving to be an equitable way to allot funds and provide manpower consistent with the amount of measured work in each unit.

During fiscal 1958, 197 foreign specialists in forestry, wood utilization, watershed, and range came to the United States for training or discussion with Forest Service personnel.

A 5-year personnel development program was started to help the Forest Service meet challenging conditions in the years ahead. It stresses individual training and self-improvement plans. Servicewide courses and workshops were held in forest fire behavior, multiple-resource management, effective communications, and other specialized subjects.

MARKETING AND FOREIGN AGRICULTURE

Agricultural Marketing Service

Marketing Research

Marketing research in agriculture is saving many millions of dollars each year for the American public—for farmers, handlers of farm products, consumers, and taxpayers generally.

Although this is by no means all, more than $25 million each year in cash savings and benefits of new efficiency are now flowing to the public from the achievements of marketing research since establishment of the Agricultural Marketing Service 5 years ago. Actually, this total is far from complete, since it counts only the major savings resulting from a selected few research projects for which dollar values can be most readily calculated. Even so, the savings from this small group of projects amounts to several times the present annual cost of this research.

Newly developed grain aeration, for example, moves air through grain, taking the place of vastly more costly method of turning grain by moving it through the air—a practice antedating Moses in Egypt. The result is a saving of $1.5 million a year in grain handling costs. Also, the increased efficiency in use of storage space is estimated at a value of $1 million per year.

Better cotton warehousing methods and handling, developed by AMS research, are saving $2 million a year in handling charges for cotton. The result has been lower warehouse charges benefiting the farmer, the shipper, and the public.

Improved market centers in San Antonio, St. Louis, Philadelphia, and other cities are chalking up savings estimated at a total of $15 million each year—with more to come.

A research-developed blood-spot detector for use in egg marketing promises a saving of $1 million a year for the poultry industry.

Research to improve packing and handling of perishable fruits and vegetables—such as sweet cherries, pears, tomatoes, apples, plums, watermelons—is bringing savings of over $5 million a year.

Research said discontinue waxing of Maine potatoes. Savings to industry—$80,000 per year.

Texas carrot shippers are saving over $1 million annually through use of cheaper packing made possible through marketing research on hydrocooling and development of multiwalled bags.

Research showed California grapes shipped out of storage needed less refrigeration than they were getting. Result—savings of $780,000 per year.

These are but a handful of examples selected from the hundreds of research projects of the Agricultural Marketing Service. Each of these projects is pointed toward savings in marketing costs, improvements in marketing efficiency, and expansion of the market for farm products.

By its very nature, marketing research is especially concerned with the dollars-and-cents sides of agriculture and agricultural marketing. Its basic aim is to expand commercial market outlets for the products of American farms. And that means concern with volume of production and sales, prices and costs, and quality improvement throughout the marketing system; it means concern with the relative advantage of old and new methods of handling and merchandising farm products to meet the wants of consumers.

In 1958 the Marketing Research Division of AMS worked on more than 500 projects covering all phases of marketing farm products. The studies ranged from evaluation and maintenance of food and fiber quality to ways to improve the efficiency of transportation and of wholesaling and retailing farm products.

Milk. AMS specialists analyzed farm-to-retail price spreads for milk in Chicago. For single quarts of milk delivered to homes, the spread between payment to farmers and prices paid by consumers rose from 11.5 cents a quart in January 1947 to 16.5 cents a quart in December 1957. Deliveries of quart containers of milk to homes have declined rapidly during recent years in the Chicago area. Most milk is now bought in half-gallon and gallon containers, and more than twice as much is bought at stores as is delivered to homes on milk routes. About 59 percent of the consumer's dollar was paid for marketing services in 1957.

It was estimated that new technology in cooling milk at farms and in hauling it from farms to plants could result in overall savings of from $5 million to $12 million annually.

Marked increases took place in the average daily milk consumption per pupil in St. Louis and Los Angeles public schools serving milk after introduction of the Special Milk Program. Average daily consumption of milk in high schools more than doubled in both cities. In St. Louis elementary schools, daily consumption of milk rose 50 percent, and in Los Angeles 68 percent.

Meat-type Hogs. Study of the Canadian program to develop high-quality, meat-type hogs showed a great improvement in swine quality in Canada since the 1920's, when the Canadians first took steps toward a universal grading system. The Canadian farmer has, in general, switched to the meat-bag hog. On the basis of equivalent U.S. grades, about 70 percent of Canadian barrows and gilts would grade U.S. No. 1. According to various estimates, only 15 to 30 percent of U.S. barrows and gilts grade U.S. No. 1.

Frozen Foods. AMS economists designed a report to show the magnitude of changes in capital requirements for processing and distributing frozen foods, and to indicate further adjustments that may be necessary. This was part of a continuing program designed to increase the efficiency of the marketing process for farm products.

Labor Costs. Substantial progress has been made in measuring the importance of labor costs in marketing and the ways in which labor output can be increased. Information is now being obtained for over 1,100 agricultural marketing concerns.

Fruits and Vegetables. A new inspection procedure, developed by AMS, successfully measures the quality of tomatoes for processing by (1) an objective color measurement using photoelectric instruments, and (2) a subjective estimation of defects in the fruit.

Marketing research evaluating the many new shipping containers for lettuce indicated that a single standard container, properly packed, can deliver high-quality lettuce with a minimum of bruising. The introduction of vacuum cooling, permitting lettuce to be packed without ice, has completely changed container requirements. The industry needed a single, new, standard-size container.

Restaurant owners reported that dehydrofrozen peas excel other peas in freshness, flavor, and appearance after a considerable time on the steam table, and that customers are pleased with the quality. Less freezer space is required, and savings in marketing costs because of reduced bulk and weight more than offset the cost of dehydrofreezing. The process consists of removing about two-thirds of the water content from the peas and then freezing them.

Another project indicated that movement of apples into, within, and out of packing and storage plants is usually most economical when boxes are stacked 12 high by use of 36-box, clamp-type lift trucks. In plants with a seasonal volume of 100,000 boxes, however, the 48-box, fork-lift truck was found to be most economical.

AMS conducted a study of the use of fiberboard containers in shipping California citrus fruit overseas. Researchers made six tests of shipping citrus fruit from Los Angeles to Rotterdam with a view to evaluating, improving, and maintaining the quality of fruit as it moves through marketing channels.

Poultry. Interstate trucking of fresh and frozen processed poultry under the agricultural exemption clause has resulted in lower rates and improved service an AMS survey shows.

Lamb. AMS assisted the American Sheep Producers' Council in evaluating the effects of an intensive lamb promotional campaign in Sacramento, Calif. Retail store audits were conducted before, during, and immediately after the campaign and market surveys were also used.

Cotton. AMS developed an improved method of measuring the length of fibers in a sample of cotton—called the "truncated array" method—that saves about 15 percent of the time required by the method formerly in general use and gives better results.

Flour. AMS released a handbook suggesting procedures and providing information on how to prevent insect infestation in flour mills.

Aids to Retailers. Information was released during the year regarding desirable temperatures and moisture conditions for daylight display, overnight holding, and storage for short periods of reserve supplies of produce in retail stores. The information will aid retail store operators to reduce losses and offer consumers fresh, attractive produce.

Another research report indicated that improved work stations for produce trimmers reduce handling time, make the job easier, and conserve space for the trimming operation. In two retail stores where produce trimming was tested, production by trimmers increased by 48 percent and 61 percent, respectively, a saving of 8½ man-hours a week in one store and of 16½ man-hours in the other.

Wholesale Markets. A number of cities have called upon AMS to study their wholesale food distribution facilities to determine the kinds of facilities needed. In 1958 construction was started on markets in Philadelphia, Pa., Atlanta, Ga., Chattanooga, Tenn., and Sanford, Fla.

Food Distribution Programs

Food distribution activities continued to expand during fiscal 1958. The Department emphasized efforts to increase commercial food marketings and to find constructive outlets for food acquired under price-support and surplus-removal programs.

Participation in the National School Lunch Program rose to 11.5 million children, nearly 1 million more than in the previous year. Almost 1.9 billion meals were served under the program, an increase of 100 million. Lunch programs created an increasingly significant market for food. Participating schools purchased more than $460 million worth of food in local markets. This was in addition to $91 million in federally donated foods used in these programs.

In Utah extensive use of foods donated to school lunch programs has enabled the schools to serve better lunches to their children. Managers in nearly all of the 310 schools in Utah's school lunch program do most of their own baking, utilizing such donated commodities as wheat flour, cornmeal, dry milk, butter, and cheese.

A wide variety of appetizing bakery products makes the lunches more appealing. The managers effect substantial savings by doing the baking in their own kitchens. These savings make it possble to buy additional foods and to hold down the cost of the lunches.

The Special Milk Program was extended to an additional 5,000 schools and child-care institutions in 1958, raising the total to 76,000 now participating. Over 1.9 billion half pints of milk were consumed under the program—in addition to the 1.9 billion half pints consumed under the National School Lunch Program. The program has been continued, beyond the June 30, 1958, expiration date, for an additional 3 years.

Over 19 million people benefited from direct distribution of surplus foods—13.5 million children through school lunches, 1.4 million persons in charitable institutions, and 4.7 million needy people in family units. The total of surplus foods distributed in this country, at about 850 million pounds, was down from the previous year, as strengthening farm markets reduced the need for surplus-removal purchases. Reduction in Government surplus food inventories also left fewer kinds of foods available for foreign donation. However, increases in quantities of cornmeal and wheat flour distributed abroad more than offset this reduction, and the total of foods donated abroad increased to almost 2 billion pounds.

Requests for merchandising support through the Plentiful Foods Program increased. Regular monthly activities focused attention on foods available in ample supply. Special merchandising drives were carried out on turkeys, cheese, apples, dry peas, canned and frozen peas, dried prunes, fresh sweet corn, lettuce, watermelon, dairy products, and peaches. Marketing of plentiful grain products was aided by support of such industry-sponsored promotions as August Sandwich Month and Better Breakfast Month.

Federal Milk Marketing Orders

More milk was marketed under Federal milk-marketing orders in calendar 1957 than ever before. Federal marketing order areas also continued to expand.

More than 35 billion pounds of milk—over one-fourth of all the milk produced in the United States—were marketed under the 68 orders in effect. This compares with 32 billion pounds marketed under the 68 orders in 1956.

The largest expansion in milk-marketing areas was in New York. This order area was enlarged to include northern New Jersey and upstate New York. Milk consumed by more than 17 million people is marketed under the renamed New York-New Jersey order.

New orders were established in southeastern Florida and north central Iowa. Orders were recommended for Washington, D.C., and Des Moines, Iowa. Hearings were held on the establishment of orders for nine other markets and on the expansion of areas covered by several others.

Improvements in handling and transporting milk brought about the expansion of many milk markets covered by Federal orders. The improved facilities have made it feasible for handlers to process and bottle milk in one market and transport it many miles for sale in another city. This development has brought mergers of markets as well as expansion. The Oklahoma City and Tulsa-Mukogee orders were consolidated, as were the Greater Kansas City and Topeka orders.

Fruit and Vegetable Marketing Agreements and Orders

Fruit and vegetable marketing agreements and orders totaled 36 at the close of fiscal 1958, 2 more than in the preceding year. Three new programs were issued, covering Florida cucumbers, North Dakota-Minnesota potatoes, and California nectarines. The southeastern pecan program was terminated. Regulations issued under the various programs included the limiting of shipments in interstate commerce to specified grades, sizes, maturity, condition, quality, and quantity, to designated containers, and the establishment of salable and surplus or set-aside percentages of commodities.

Regulatory Acts

Federal Seed Act. The volume of work under the Federal Seed Act greatly increased. Nearly 16,000 tests had to be made of seed offered for import, and more than 3,000 verification tests of domestic seed originally tested in State laboratories. Imports of 290 million pounds of 110 different kinds of seed from 26 countries were the largest on record. A small increase in the number of violations of the act in connection with seed grown in the United States was reported by State seed laboratories. Investigation and prosecution of alleged violations of the act resulted in 20 court decisions.

Packers and Stockyards Act. Investigations of alleged violations of the Packers and Stockyards Act were intensified, with increasing emphasis upon provisions of the act applicable to meat packers. Activities included investigations of fraudulent livestock weighing practices at Indianapolis and other stockyards, the use of so-called "turn" systems in the discriminatory purchase of livestock by dealers at Kansas City, and the operation of fraudulent and collusive arrangements between packer buyers and dealers at Chicago and St. Paul. Major investigations were made of discriminatory meat-pricing practices by national packers. Formal complaints of misuse of Federal grade terms in branding and advertising beef were issued. One complaint dealt with efforts by a major meatpacker to control the procurement of livestock through arrangements with dealers and country buyers in four Southern States. At the close of the fiscal year, stockyards "posted" under the P. & S. Act numbered 590, an increase of 66 over the preceding year. Bond coverage of registrants under the act, for the protection of livestock producers and the livestock trade, totaled $48.7 million, a new record high.

Perishable Agricultural Commodities Act. Highlights of PAC Act work included: (1) expansion of the program designed to prevent misbranding of potatoes and other farm commodities in interstate trade, (2) conducting of marketing clinics for a better understanding of administrative procedures, and (3) a conference with leading industry members to review and improve Government services designed to meet the needs of an expanding produce industry. Amicable settlements were effected resulting in payments to complaining parties of nearly $1 million and formal reparation awards under the act totaled $593,000. Licenses under the PAC Act at the close of the fiscal year numbered 25,032. In another sector of regulatory work—the Export Apple and Pear Act—minimum grade requirements for fresh apples were increased for the purpose of putting higher quality fruit on world markets.

Acreage-Marketing Guides

The vegetable acreage-marketing guides seek to achieve better balance of production with consumption requirements, counseling increased production in some cases and reduced output in others. The vegetable industry has increasingly appreciated the need for greater stability in supplies moving to markets, and now generally recognizes that the problem of unbalanced production can best be solved at planting time. There has been a continued growth in the informational and educational activity with respect to the guides by private industry as well as by the Department.

Market News Service

An Illinois farmer says: "I cannot overemphasize the importance of the daily livestock market reports in my cattle and hog operations. I pay extra attention to these reports a week or two before shipping cattle or hogs. It has frequently meant a difference of 50 cents or more per hundredweight in my favor."

The president of a leading radio station in south Georgia says: "We know how closely tobacco farmers and others follow the market reports, and as a special service during the auction season we broadcast each daily market report several times a day. We have been using these daily reports from the market news office at Valdosta, Ga., from the time we began broadcasting, in November 1950."

The reporting scope of the Market News Service was broadened to adjust to changes in the national marketing pattern. While continuing to emphasize radio, television, telegraph, and the wire news services to assure fast and wide distribution of market news, AMS made changes and improvements in published reports, to provide summarized or more comprehensive information.

The Cotton Division collected more comprehensive and complete information on prices and market conditions, in both designated and nondesignated spot cotton markets.

To satisfy increasing demands from industry, the scope of market news work on dairy and poultry products was broadened. Volume-price reporting was initiated on eggs and live and processed poultry at a large number of country and shipping point markets.

Prices were reported at six different levels of trading, with one or more reported at each market or area. A number of reports on wholesale prices were replaced by reports on prices paid at the farm, at country shipping points, at processing plants, and at distributing points.

The Fruit and Vegetable Market News Service was extended and improved by the operation of a seasonal shipping point office at East Grand Forks, Minn., from September through March to report on marketings of potatoes produced in the Minnesota-North Dakota Red River Valley area. The States of Minnesota and North Dakota cooperated by paying for half the cost of maintaining this office.

A seasonal market news office at Willcox, Ariz., was operated during the latter half of May and June to provide service in the newly established eastern Arizona lettuce-producing area.

The Onley, Va., seasonal office, previously operated by the Federal Department during the active potato shipping season became a Federal-State year-round operation under cooperative agreement, with the State of Virginia assuming the larger share of the cost.

The Grain Division's rice market news service in the southern area was improved by the weekly publication, by variety, of rough rice receipts at mills and driers. An Annual Market Summary of Southern Rice was published, the first since 1952.

Livestock Market News offices in the West and Southwest increased their coverage of range and feedlot sales with special attention to auction markets. The usual complete coverage of livestock at terminal markets continued, and an office was established at Sioux Falls, S. Dak., to report on cattle, hogs, and sheep.

During the 1957–58 marketing season, Tobacco Market News services were furnished to all auction markets and the tobacco trade. A total of 1,103 different reports (daily, weekly, and seasonal) were prepared, and 912,284 copies were distributed. About 80 percent of these were furnished directly to growers for use at the time their tobacco was offered for sale.

The "Gum Naval Stores Weekly Report" was further refined and broadened to include such additional market factors as weather conditions.

Inspection, Grading, and Classing

The value of the Department's inspection, grading, and classing programs was graphically demonstrated during the year by increased demands for these services.

Regulations were developed and much work done in connection with the Poultry Products Inspection Act, Public Law 85–172, which requires inspection for wholesomeness for all poultry food products moving in interstate commerce after January 1, 1959. To implement the law, a number of training programs were inaugurated and the Inspection Branch of the Poultry Division was reorganized.

As of June 30, 1958, inspection of poultry and poultry products was being provided to 356 plants, and 321 applications for inspection service were on file. Heavier demand for consumer labeled products brought about an increase in poultry grading work of about 225 million pounds compared with the previous year. The number of shell eggs graded increased slightly.

For the first time in the history of U.S. grain inspection, the number of inspections during the fiscal year totaled over 3 million, a 2-percent increase over the previous year and a 24-percent increase over the average for the past 5 years. The volume of rice inspections, primarily the inspection of rough rice, decreased sharply due to the smallest rice crop since 1950.

Inspection and grading of dairy products continued at a high level. Production of consumer-packaged butter labeled with U.S. grade identification increased to a total of 149 million pounds, indicating widespread consumer acceptance of this high-quality butter. In all, nearly 3.5 billion pounds of dairy products were inspected and graded, or handled under U.S. supervision of repackaging and processing.

A total of 1,522 dairy manufacturing plants were inspected.

The volume of meats federally graded and certified in about 1,186 establishments totaled more than 7.1 billion pounds. This was approximately one-half billion pounds less than in the previous year, due to a reduction of 7 percent in the number of cattle, calves, and veal produced.

Total volume of cotton classing was second largest on record, even though cotton production during fiscal year 1958 was some 2 million bales less than in 1957.

The merits of the Smith-Doxey cotton classing service are pointed out by a farmer and gin manager in Snyder, Okla. "This service has been very good, fast, and courteous. The grade and staple length certificate assures us fair treatment. The classing service means more dollars to producers."

The 1.4 million carlot equivalents of fresh fruits and vegetables inspected during the year represented a slight decline from the record-high level of the previous year; the decrease was largely due to unfavorable weather conditions. The total volume of processed products inspected increased somewhat as compared with the previous year.

The administrative and technical abilities of the AMS Fruit and Vegetable Division's New York City Fresh Products Inspection Branch won high praise from officials and members of the New York Mercantile Exchange for the prompt inspection and certification of an unprecedented volume of potato shipments in late April and early May of 1958. An unusual price differential between the April cash market and May futures brought a rush of deliveries on May 1.

Of the total 1,435 carlots of potatoes certified for the exchange in April, 807 were inspected during the last 3 days of the month for May 1 delivery. Also

during those 3 days, another 32 cars were examined and found ineligible for exchange trading.

To handle such a volume, in addition to the normal heavy load of produce inspections in the busy New York City terminal, the Inspection Branch called upon the services of 37 trained Federal and Federal-State inspectors from stations as far south as Florida and as far north as Maine, thus more than doubling the regular staff. To make minutes count during the peak delivery period, messengers provided by the exchange carried inspectors' worksheets from inspection points to the office for issuing, and delivered the typed official certificates to the exchange.

Pointing out that time was of prime importance during the peak delivery period, John Clagett, executive director of the New York Mercantile Exchange, characterizes the performance of inspection personnel as, "the finest service any department could have rendered . . . the cooperation and teamwork we enjoyed was of the highest degree. The inspection service performed a truly tremendous job."

Inspection service was maintained on all of the 177 established tobacco auction markets, comprising 879 different warehouses. The volume of tobacco inspected totaled nearly 2 billion pounds—100 percent of all tobacco sold at auction.

A new signatory brought to 22 the total number of turpentine packer firms now operating under a blanket cooperative inspection agreement. More than 3 million gallons of turpentine, packed in small containers, were inspected and certified under this program.

Standardization

At the request of agricultural industries, several new standards were issued during fiscal 1958 and many existing standards were revised.

Much technical work was done in maintenance and improvement of official standards for use in evaluating cotton linters, and cottonseed.

Revised grade standards for American Egyptian cotton became effective August 1, 1957. The staple standards for linters were changed from descriptive to physical form as of July 1, 1957.

Work continued on a suggested "dual" grading system for carcass beef, involving separate identification of quality and of expected yields of trimmed cuts. Methods for estimating yields of cuts were developed.

Several revisions of standards for livestock and meat were prepared and discussed with the trade, and a study of feeder pig characteristics was made as the basis for the development of standards for grades.

AMS completed two wool studies involving mill processing and laboratory testing for clean fiber content, fineness, length, crimp, and color, and published two bulletins on the results of this work.

Data collected during the year to assess the effect of the change in the wheat standards effective June 15, 1957, indicated that the quality of wheat exported was improved.

As of June 30, 1958, 148 standards were in effect for 79 different fresh fruits and vegetables and related products. During the year new standards were issued for Christmas trees, Florida avocados, and cranberries for processing.

At the close of the fiscal year, 139 grade standards were in effect for processed (frozen, canned, and dried) fruits and vegetables and miscellaneous processed products. Seven new standards for this type of product were issued, including those for canned tomatoes and okra, summer type squash, onions, and hominy, and for frozen fish blocks, raw breaded shrimp, and concentrated sweetened grape juice.

A program of certification for quality-controlled eggs was developed on an experimental basis and a descriptive bulletin was issued. A number of publications on the standardization of poultry and poultry products were revised and several new ones published.

Official standards for flue-cured types of tobacco were amended to stress the importance of maturity in the grades of these types. Minimum standards for artificial lighting used in tobacco laboratories were established.

Agricultural Estimates

The Agricultural Marketing Service obtains timely information on actual and prospective agricultural production and agricultural marketing problems in every area, clarifies the national picture on the basis of this information, and makes its findings known through crop and livestock reports.

In fiscal 1958 sample survey procedures were improved during the year and the objective yield program in cotton extended to California, Arizona, and New Mexico. A pioneering yield project on burley tobacco was added in Kentucky, and work continued in objective yield work on corn, cotton, soybeans, and wheat.

A survey to determine farm grain storage capacity was made in eight States where the problem appeared most acute.

To improve the usefulness of reports and services on prices received and paid by farmers, special attention was given to the price series for milk, apples, and tobacco. A survey was made to determine marketing channels and selling practices for Maine potatoes.

A program to improve egg production estimates was started in seven States because of the increasing importance of commercial flocks.

Special reports gave the Florida citrus fruit industry prompt and accurate information on heavy freeze damage in December and January. Earlier reports are now provided on the estimated utilization and value of noncitrus fruit crops, issued in two separate releases. Special surveys were completed on Georgia peaches and California strawberries.

New legislation made it possible for the first time to show cotton acreage actually planted in the initial cotton report and from this information to estimate acreage for harvest in an August 1 report.

Content and format of cotton questionnaires were considerably improved.

Plans were completed to expand quarterly cattle on feed reports into eight additional States. Special tabulations were made in several States in connection with the pig crop reports to improve the basis for the estimates of farrowings. A record of commercial livestock slaughter by States for 1944–57 was published.

Use of electronic computers made it possible to expedite greatly the handling of the data collected in the annual enumeration of dairy products manufactured. The coverage of the fluid milk and cream report was improved. Reports on processed cheese and cheese food compounds, spreads, and cold pack were published for the first time. Reports on the supply and domestic disappearance of seeds were placed on a monthly basis.

Federal-State Matching Fund Program

In an effort to help solve marketing problems at the State level, marketing service work financed by matched funds (Federal and State) was conducted during the year in 40 States and 3 Territories. Under this Federal-State program, marketing agencies are assisted in applying research findings and the best marketing practices known to improve their marketing operations.

A total of 36 States and Territories assisted marketing agencies in improving or maintaining the quality of agricultural products. There were programs for fruits and vegetables, poultry and eggs, dairy products, livestock and meat, grain and seed, cotton, tobacco, nursery products, and other commodities.

A milk quality improvement program was conducted by the Mississippi Department of Agriculture in conjunction with the milk manufacturing plants in that State. In performing this service, dairy marketing specialists checked the quality of products in marketing channels and the handling and processing procedures and equipment being used by producers and the plants to determine the causes of contamination, and gave firsthand assistance in correcting conditions responsible for inferior quality in the raw and finished products. The quality of about one-third of Mississippi's annual 1 billion pounds of commercial milk production was improved by this program.

Activities in expanding outlets for agricultural products were carried on in 23 States. The California Department of Agriculture, for example, helped develop and conduct promotional campaigns for canning Bartlett pears, fresh peaches, fresh plums, dried prunes, long white potatoes, strawberries, and boysenberries.

At the request of industry groups representing these commodities, marketing specialists of the California Department conducted trade surveys in important market areas to determine what improvements were needed in the quality and packaging of the product and in sales promotion techniques in order to expand markets. The findings developed through these surveys were used by the advisory boards in charge of product promotion in planning their 1958 promotional campaigns.

The application of research findings and advances in technology to increase marketing efficiency and reduce costs was demonstrated to assemblers, packers, processors, wholesalers, and retailers in 20 States. This work involved such commodities as poultry and eggs, dairy products, livestock and livestock products, fruits and vegetables, grain, seed, cotton, and tobacco. Programs designed to assist poultry processing plants in complying with the Federal Poultry Inspection Act were initiated in several States.

Marketing agencies were provided with new and timely basic data and other marketing information relating to current production forecasts; long-term production trends; the locations, volume, quality, marketing periods and prices of products in seasonal surplus; competitive situations in the markets; storage holdings; and prices at country points. Activities in this field were conducted by 34 States and were related to practically all agricultural commodities of commercial importance.

Agricultural Economics

In fiscal 1958 the Department made studies of several recent self-help proposals, including those for the dairy and turkey industries. We find much merit in the principle of self-help. Although our studies indicate that all the proposals brought forward so far have certain defects, we are still studying possible modifications that might be of benefit both to producer groups and to the general public.

Preliminary results obtained from studies of the effect of new industries on rural communities were conducted in cooperation with agricultural experiment stations in Louisiana and Mississippi. They show that median income from all sources of families of plant workers exceeds the median income of other local rural families. About one-fifth of the plant workers had shifted directly from farm to factory work. For most of those still living on farms, farming operations were relatively small scale, adding little to family income.

The part-time farmers reported little or no change in the nature or scale of farming after they obtained plant employment. In Louisiana, most of the workers planned to continue farming, but in Mississippi few felt they would continue farming indefinitely.

Since 1950 the level of living of all plant workers has risen significantly and more than that of the average local rural resident. The majority of residents interviewed in both States felt that the new industries had improved their communities by increasing job opportunities.

Three years after the extension of old-age and survivors insurance to farm operators, farmers were generally favorable to the social security program, according to information obtained by the Department in cooperative studies with State agricultural experiment stations in Kentucky, Maine, and Texas. About two-thirds of the farmers in Texas and two-thirds of those in the more prosperous farming area surveyed in Kentucky were eligible for OASI coverage. In a lower income area in Kentucky, only 4 out of 10 farmers were eligible.

A Survey of Farmers' Expenditures in 1955, conducted by the Department of Agriculture with the U.S. Bureau of the Census, indicated that agriculture is a $40 billion market, largely for goods and services purchased from the nonfarm economy.

By providing recent information on the size and composition of farmers' expenditures, the survey enabled us to make material improvements in the farm income estimates published regularly by the Department. Estimates, also based mainly on the survey, showed income trends for commercial farms as distinct from income trends for other farms. Commercial farms have largely borne the brunt of adjustments in agriculture in the past decade. Incomes of noncommercial or low-production farm families generally increased over the past decade because of large off-the-farm income. In recent years almost three-fourths of the family income of this group has come from off-farm sources. The survey also provided basic data for initiating research on the relationships between agriculture and the national economy.

Data from the Survey of Farmers' Expenditures showed that the median farm family expenditure for health care in the United States in 1955 was $168 a year. Seventeen percent of all families spent less than $50, but 11 percent spent over $500. The average expenditure for the latter group of families was $828.

More than 50 percent of farm families carried some kind of health insurance for one or more members of their families. In States with 60 percent or more urban population, 76 percent of the residents carried hospitalization insurance; in States with 60 percent or more rural population, 53 percent carried insurance.

A special report on "The Current and Prospective Hog Situation" was published by the Department during the year. This report, indicating that there was room for some further expansion in hog numbers in 1958 but that an excessive expansion might lead to severely reduced prices, received wide publicity in the hog producing areas.

Our Outlook reports reassured farmers that the business recession of 1957 and early 1958 would have little effect on consumer demand for food. Sales at retail food stores rose substantially in the first half of 1958, and prices and incomes in agriculture were considerably improved. The Outlook reports contributed to maintaining confidence in the agricultural sector and agriculture was a source of strength to the entire country during the recession.

Our research on the longer run demand prospects for agriculture was intensified during the year. Even though the current situation is characterized by heavy supplies and a surplus situation for many farm products, continuing analyses of the longer run demands help bring perspective to the agricultural problem. By 1975, our population will have grown by over 50 million people, and domestic demands could well be 50 percent higher than at present. By the year 2010, our population may be more than double that of the present. How well we meet the needs for food and fiber for our expanding population will be determined largely by the extent of effective research geared to a continuing appraisal of the longer run requirements of our economy.

Commodity Exchange Authority

The enforcement of the Commodity Exchange Act by the Commodity Exchange Authority helps maintain fair and competitive pricing in the commodity futures markets. The CEA's activities also help farmers, merchandisers, and processors to effect economies in marketing by means of "hedging"—the balancing of inventories and requirements in actual commodities against offsetting sales or purchases in futures.

The CEA regulates futures trading on the Chicago Board of Trade, the New York Cotton Exchange, and other contract markets. These markets conduct futures trading in 23 commodities. The aggregate trading volume under CEA supervision annually amounts to more than 8 million transactions, with an estimated trading value in excess of $30 billion.

The agency's work in the futures markets is of direct as well as indirect benefit to farmers because of the widespread use or effects of futures prices in arriving at "cash" or "spot" prices for farm products at country points as well as terminal markets. If futures prices and related income returns to farmers are truly to reflect basic supply and demand conditions, the trading in futures markets must be fairly conducted and free from price manipulation.

To guard against manipulation and other abusive trading practices, the CEA continuously conducts investigations of questionable operations in the futures markets. Seven formal complaints charging violations of the Commodity Exchange Act were issued in the 1958 fiscal year based on CEA investigations. The charges included manipulation, attempted manipulation, exceeding the speculative limits, failure to file required reports, and the filing of false reports.

In its continuing programs for safeguarding the registration of futures prices and protecting the hedging facilities of the futures markets, the CEA maintains a comprehensive broker-and-trader reporting system. Under this system the CEA requires daily reports from brokers and large traders which provide basic data on trading operations in all commodities under the act. From the half-million reports received annually, the CEA derives essential information for regulatory purposes, and for the maintenance of its market data service to the public.

In supervising commodity brokerage activities, the CEA annually registers about 1,400 commodity brokers and futures commission merchants. It safeguards against improper handling of margin moneys and other trading funds of commodity customers by periodically auditing the books and records of about 500 futures commission merchants.

Foreign Agricultural Service

U.S. agricultural exports in fiscal 1958 were maintained at a near-record level of over $4 billion for the second successive year.

About 10 cents of every marketing dollar received by U.S. farmers came from exports.

Exports helped reduce price-depressing surpluses—two-thirds of the surpluses moving out of Government inventories into use were exported.

Products equivalent to the harvest of 50 million acres—or 1 acre out of every 6½ harvested in 1957—went abroad.

Agricultural exports in fiscal 1958 required financing, inland and ocean transportation, and storage for over 32 million tons of farm products—enough to fill 710,000 freight cars and 3,200 cargo ships. An average of nine ships a day weighed anchor in moving these products abroad.

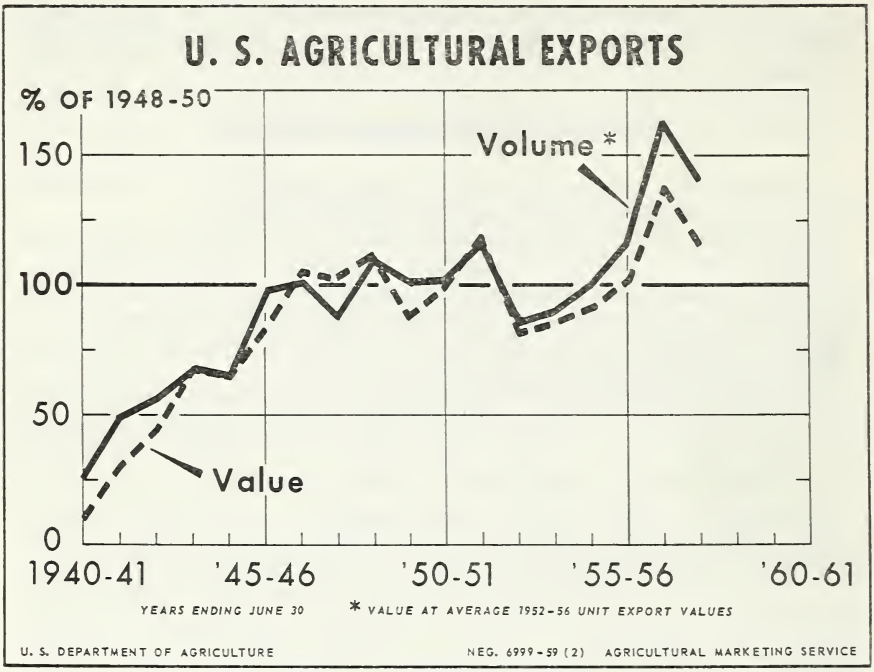
Although our 1957–58 exports of slightly over $4 billion were 15 percent below the recordbreaking $4.7 billion total the year before, they were the third highest on record, and far above the level of only $2.8 billion in 1952–53, the year before the Foreign Agricultural Service was organized to expand foreign agricultural markets. Smaller exports of cotton and grains accounted for much of the 1957–58 decline.

U.S. farm products helped to feed and clothe millions of friendly foreign people, thus strengthening this country's leadership in the world fight for freedom. Our agricultural productivity served the humanitarian needs of a changing world. At the same time, it enabled many countries to concentrate less on becoming agriculturally self-sufficient, and, instead, to devote their limited financial resources to strengthening their industrial economy, thus building potential future outlets for American agricultural products.

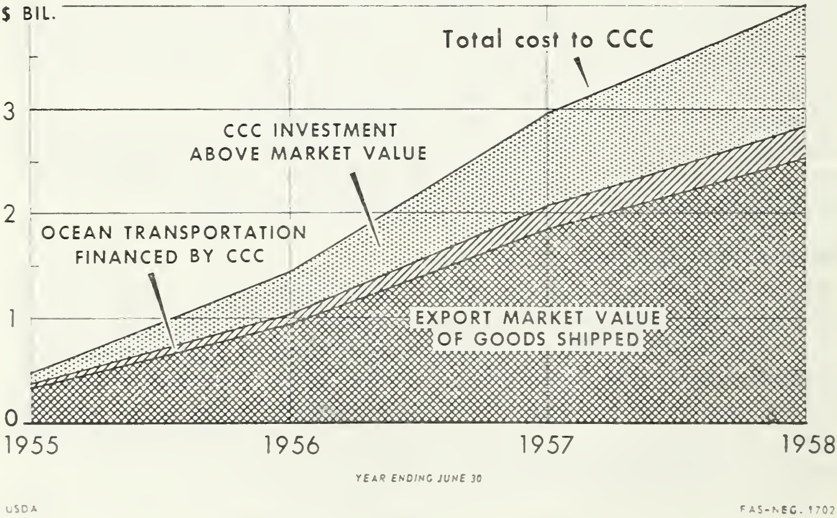
During the year, Public Law 480 continued to be an important instrument of U.S. foreign policy and a means of assisting the economic development of participating countries. These countries became better potential markets for U.S. farm products.

Market Development

Government programs helped to keep agricultural exports high, but major emphasis was on sales for dollars. Of our total agricultural exports, $2.8 billion worth moved outside of Government programs—about the same as in the previous year. Because of the 15-percent decline in the total, however, the ratio of exports moving outside Government programs increased from 60 percent in 1956–57 to almost 70 percent in 1957–58.



Total Sales Under Public Law 480 Top $4 Billion in 4 Years



Value of U.S. agricultural exports under specified Government programs, and of total agricultural exports, July–June 1957–58

		Million dollars
Agricultural exports excluding specified Government programs[1]		2,756
Agricultural exports under Government programs:		
Public Law 480:		
Title I, Sales for foreign currency	654	
Title II, Famine and other emergency relief	92	
Title III:		
Foreign donations	173	
Barter	100	
Public Law 665, Sec. 402, and economic aid	227	
Total, specified Government programs	1,246	
Total agricultural exports		4,002

[1] Includes CCC sales at or below domestic market prices, sales under special export programs, and credit sales.

The downturn in agricultural exports was clearly evident in reduced activity under Government programs, especially Public Law 480. Exports under these programs fell from $1.9 billion in 1956–57 to $1.2 billion in 1957–58. Barter shipments dropped by about $315 million, and Title I, Public Law 480, foreign currency sales declined by $250 million. Title I exports slowed down because funds to finance them were limited.

Sustaining the Nation's agricultural exports at a level of over $4 billion required teamwork between the Department and private trade. Sales were made through private channels, with the Department smoothing export paths by drawing on the resources of its Foreign Agricultural Service.

These resources were used to expand U.S. foreign agricultural trade in such important ways as—

1. Helping to lower or remove trade barriers,
2. Reporting foreign monetary problems and helping to solve them,
3. Studying and reporting market situations and foreign competition,
4. Cooperating with private trade in 95 projects to promote markets abroad,
5. Participating in seven international trade fairs.

All available data affecting foreign agricultural trade, including "country studies" and other analyses relating to foreign agricultural marketing possibilities, were promptly made available to farmers, exporters, processors, and Government officials. This material proved particularly valuable in reaching decisions on important foreign economic and other problems affecting the interests of U.S. farmers.

When Congress was considering the extension of the Reciprocal Trade Agreement Act, information obtained from the Department facilitated a better understanding of the issues involved. This was important in view of the fact that nearly 80 percent of U.S. agricultural exports have been going to countries having trade agreements with this country.

Work of the Attachés

Information of this type was based to a large degree upon the facts and analyses obtained from a smoothly functioning agricultural attaché service which formed the core of the Department's foreign operations in behalf of U.S. agriculture. FAS attachés stationed at 51 posts represented U.S. agricultural interests throughout the world. Their work included comprehensive reporting; acting as the ears, eyes, and voice of U.S. farmers and farm business abroad; and striving to expand this country's foreign agricultural markets.

In keeping the Department informed of foreign agricultural developments, the attachés prepared more than 4,000 scheduled reports, supplemented by voluntary reports, letters, cables, airgrams, and memoranda. Collecting, organizing, and verifying this mass of information required much ingenuity and resourcefulness, extensive travel, and personal contact with foreign government officials, producers, processors, and trade representatives.

Although market development was a primary objective, it was not the Department's only activity in the foreign field.

Agricultural imports came in for major attention. Imports earn dollars which such countries as Brazil and Cuba use to buy U.S. agricultural exports. Since timely and reliable production and trade information about coffee, cocoa, sugar, hard fibers, and other tropical products is important to the United States, the Foreign Agricultural Service kept constantly abreast of situations affecting these commodities.

Continuing its strategic contributions to the Nation's mutual security program, FAS assisted some 2,700 foreign agricultural visitors during the year in special agricultural training and observations in the United States.

The task, carried out principally under contractual arrangements with the International Cooperation Administration, implemented the agricultural technical cooperation program. It supported, in addition, other elements of U.S. foreign policy, such as the educational and cultural exchange program of the State Department, East-West contacts, the sharing of know-how on the peaceful uses of atomic energy, and the technical assistance programs of the United Nations.

To do the job, the Foreign Agricultural Service utilized the resources of the 18 USDA services and agencies, both in Washington, D.C., and in the field. This involved the cooperation of 50 land-grant colleges, 9 other Government departments, at least 470 private organizations and institutions across the country, and innumerable farmers and other individual citizens in setting up training programs and study opportunities in agriculture.

Top foreign agricultural officials, including several Ambassadors, Ministers, or Vice Ministers of agriculture, were especially helped to obtain a clearer understanding of U.S. agricultural policy.

AGRICULTURAL STABILIZATION

Commodity Stabilization Service

Thousands of farmers used the price-support program in 1958 as a protection against the effects of wide price fluctuations. The volume of support extended on 1957 crops, through June 30, 1958, amounted to $2,684 million, as compared with $2,979 million on 1956 crops.

Funds of CCC "tied up" in price support at the end of June 1958 amounted to $7,030 million—consisting of $1,575 million in loans outstanding, and $5,455 million in inventories, on the basis of cost value. Funds in loans and inventories on June 30, 1957, totaled $7,338,100,000.

Three commodities accounted for the bulk of the June 30 loan total: Upland cotton, 2.8 million bales, $355,720,000; corn, 399 million bushels, $511,380,000; and tobacco, over 901 million pounds, $566,884,000. Other commodities on which CCC had made loans were wheat, soybeans, extra long staple cotton, honey, barley, flaxseed, grain sorghums, oats, rice, rye, rosin, turpentine, peanuts, and tung oil.

Among the large commodity holdings on June 30 were wheat, 835 million bushels, valued at $2,300 million; corn, 1,028 million bushels, $1,858 million; grain sorghums, 175 million bushels, $403 million; and upland cotton, 1,073,000 bales, $190 million. Other commodities in inventory included barley, rice, butter, soybeans, cheese, nonfat dry milk, oats, rosin, dry edible beans, field seeds, flaxseed, rye, extra-long staple cotton, wheat flour, cornmeal, honey, tobacco, peanuts, and gum turpentine. Also in inventory were certain strategic materials acquired through barter of surplus farm commodities.

National average support prices in effect for 1957 crops (or production during specified periods) were as follows:

Basic commodities: Wheat, $2 per bushel; corn, $1.40 per bushel (compliance with acreage limitations), $1.10 per bushel (noncompliance with acreage limitations); cotton, upland, 28.81 cents per pound; cotton, extra-long staple, 59.70 cents per pound; peanuts, 11.07 cents per pound; rice, $4.72 per hundredweight; tobacco, cents per pound—flue-cured, 50.8 cents; fire-cured, 38.8 cents; burley, 51.7 cents; Virginia sun-cured, 34.5 cents; cigar binder, 51.7 cents; cigar filler and binder, 26.5 cents; dark air-cured, 34.5 cents; Maryland, 48 cents; and Puerto Rican, 32.5 cents.

Designated nonbasic commodities: Dairy products (April 1, 1957–March 31, 1958)—butterfat, 58.6 cents per pound; manufacturing milk, $3.25 per hundredweight; extracted honey, 9.7 cents per pound; and tung nuts, $52.13 per ton.

National Wool Act commodities: Wool, 62 cents per pound; and mohair, 70 cents per pound.

"Permissive" commodities: Barley, 95 cents per bushel; dry edible beans, $6.31 per hundredweight; flaxseed, $2.92 per bushel; grain sorghums, $1.86 per hundredweight; oats, 61 cents per bushel; rye, $1.18 per bushel; soybeans, $2.09 per bushel; cottonseed, $46 per ton; and crude pine gum, $28.29 per standard barrel, processed basis.

Net realized program losses sustained by the CCC in its nonrecourse loan, purchase, and payment programs totaled $1,072,688,152 in the fiscal year 1958, as compared with losses of $1,299,477,342 in the fiscal year 1957.

During the year CCC disposed of commodities having a cost value of $3,458,976,000, compared with $4,207,844,000 a year earlier. Of the 1958 total, $1,983 million represented sales for dollars; $173 million, barter; $577 million, operations under Titles I and II, Public Law 480; $366 million, donations; $235 million, transfers to other Government agencies; and $124 million, payment-in-kind exports.

In addition to increases by the commercial storage industry, several actions were taken by CCC in the fiscal year 1958 to assure storage for the Nation's large grain supplies.

Some CCC-owned grain stocks were shifted from congested areas, primarily in the Middle West, to other areas where storage was available. As a result, procurement of additional bin-type storage was not necessary. At the end of the year, storage capacity represented by CCC-owned bins totaled 988 million bushels. Also helping to ease the tight storage situation were ships of the Maritime Reserve Fleet, in which CCC had stored at the end of the year 40 million bushels of wheat.

Availability of CCC loans for construction of farm storage facilities and purchase of drying equipment was extended indefinitely. On the basis of loans made and commitments outstanding at the end of the year, there was an increase in on-farm storage space under this program of 39 million bushels, bringing to 359 million bushels the capacity constructed since the inception of the program in 1949. Loans outstanding on storage facilities at the end of the year totaled $23 million, and on drying equipment $2 million.

Farmers were permitted to continue their price-support loans on several grain crops and earn storage payments during the loan extension period. This "reseal" program helped to reduce the storage space required by CCC in taking over 1957 crops.

Commercial storage space covered by outstanding occupancy contracts as of June 30, 1958, totaled nearly 175 million bushels.

The sales quota guaranteed the United States for the 1957–58 International Wheat Agreement "year" was 128,493,000 bushels of wheat or wheat-equivalent in the form of flour. Actual sales recorded against this quota through June 30, 1958, covering only part of the agreement year, totaled 88,165,000 bushels.

Differential payments amounting to $75,049,136 were made to commercial exporters in cash or in "wheat export payment certificates." In addition, 4,752,526 bushels of wheat and wheat equivalent were shipped under the agreement from CCC's owned stocks and the amount of differential recorded for these deliveries totaled $3,520,840. Thus the aggregate agreement differential amounted to $78,569,976 on the total of 105,703,392 bushels, or a fiscal year average of 76 cents per bushel.

In the fiscal year 1958, the "payment-in-kind" technique was used in making export payments on wheat, and on corn for a short period toward the end of the year. Under the payment-in-kind method, exporters, instead of receiving Government checks to cover the export payments, received certificates redeemable in CCC-owned commodities. By the end of the fiscal year, plans had been announced to extend the payment-in-kind system to barley, grain sorghums, oats, and rye beginning July 1, 1958, and to cotton beginning August 1, 1958. A total of $48,443,428 of in-kind wheat export payment certificates were recorded during the fiscal year 1958. In-kind corn export payment certificates amounted to $510,844. (Payments on wheat flour were made in cash rather than in the form of certificates. Cash differential payments to exporters on flour exports amounted to $31,616,283 in the fiscal year 1958.)

On February 19, 1957, the Department announced that a cotton-sales-for-export program would be carried out during 1957–58 marketing year, exports to begin August 16, 1957, and continue through July 31, 1958. Sales for export under the program approximated 5,800,000 bales in fiscal year 1958.

The cotton products export program was continued during the fiscal year. Payments of $15½ million were made at base rates reflecting the difference between the domestic and export market price for the cotton in the products. Base rates ranged from 5.75 cents per pound in October to 6.45 cents in January.

The Commodity Credit Corporation is authorized by statute to borrow money as needed for operations up to a maximum of $14,500 million outstanding. As of June 30, 1958, CCC had in use $11,956,047,000 of its borrowing authority.

Crop Allotments, Quotas: As approved by growers voting in referendums, acreage allotments and marketing quotas were in effect for 1958 crops of wheat, cotton, rice, peanuts, and nine principal types of tobacco. Allotments were also in effect for 1958 crop corn, for which quotas are not authorized by law.

National allotments for these crops were as follows: Wheat, 55 million acres; upland cotton, 17.6 million acres; extra long staple cotton, 83,286 acres; corn, 38.8 million acres; rice 1.7 million acres; peanuts, 1.6 million acres; and tobacco (in thousand acres)—flue-cured, 713; burley, 310; cigar binder, 12; cigar-filler and binder, 24; fire-cured, (t. 21), 8; fire-cured (t. 22 and 23), 33; dark air-cured, 16; Virginia sun-cured, 5; and Maryland, 48.

A growers' referendum held in June 1958 approved marketing quotas for the 1959 crop of wheat, for which a national acreage allotment of 55 million acres was also announced. A referendum in November provided for discontinuance of allotments on corn. Referendums in December approved allotments and quotas for 1959 crops of upland and extra long staple cotton, rice, and for 1959, 1960, and 1961 crops of flue-cured tobacco.

Sugar Program: The sugar program is authorized under the Sugar Act of 1948, as amended. The objectives as stated in the preamble are to protect the welfare of consumers of sugar and of those engaged in the domestic sugar-producing industry and to promote the export trade of the United States.

The wholesale price of refined cane sugar ranged narrowly between 9.15 and 9.35 cents per pound during fiscal year 1958. Total sugar requirements for the calendar year 1957 were initially established at 8,800,000 short tons, raw value, and finally at 8,975,000 tons. Requirements for calendar year 1958 were initially determined at 8,800,000 tons but by the end of October had been adjusted to 9,200,000 tons to make needed sugar supplies available.

Conditional payments approximating $68,300,000 were made on the 1957 crop to about 65,000 sugar beet and sugarcane producers in 24 States, Hawaii, Puerto Rico, and the Virgin Islands. Sugar tax collections during fiscal 1958 totaled about $90,411,000.

International Sugar Agreement: The United States is a member of the International Sugar Agreement of 1953, as amended by a 1956 protocol. A new International Sugar Agreement was negotiated at a United Nations Sugar Conference in Geneva, Switzerland, in October 1958. The new agreement will have broader participation. All of the countries regularly exporting important quantities of sugar are expected to become members of the new agreement.

The Soil Bank

CCC has been responsible under the Soil Bank Act for handling certain financing operations connected with the acreage reserve and conservation reserve phases of the soil bank program.

Compensation to producers under the acreage reserve program with respect to 1957 crops, through November 30, 1958, totaled $609,004,000. Payments by crops were as follows:

Corn	$194, 230, 000
Wheat	229, 577, 000
Cotton	152, 422, 000
Tobacco	17, 844, 000
Rice	14, 931, 000
Total	609, 004, 000

Among the States receiving the largest payments were Kansas, over $84.5 million; Texas, $55.6 million; Nebraska, $43.8 million; Iowa,

$34.2 million; Missouri, $24.0 million; Oklahoma, $22.3 million; and Colorado, $22.0 million.

Acreage reserve payments on 1958 crops through November 30, 1958, totaled $687,604,000. Payments by crops were as follows:

Wheat	$102,983,000
Cotton	269,115,000
Corn	277,398,000
Rice	11,908,000
Tobacco	26,200,000
Total	687,604,000

Among the State payments were Texas, $72 million; Iowa, $50 million; Missouri, $45.5 million; Georgia, $36 million; Alabama, $35.7 million; and Mississippi, $35.3 million.

Payments to producers who had signed contracts under the conservation reserve program totaled $194,720,000 from the inception of the program through November 30, 1958. Payments to Texas farmers approximated $51.5 million; Minnesota, $18.4 million; New Mexico, $15.8 million; North Dakota, $15.2 million; and smaller amounts for other States.

Federal Crop Insurance Corporation

"One year of loss would just about put us out of business . . . ."
"My crop would not be a total loss if something happened . . . ."
"I didn't think I'd ever have a loss, but I did . . . ."
"I wouldn't have been able to meet my bills . . . ."
"I don't know what we would have done . . . ."
"You never know what will happen . . . ."
"A man needs some protection . . . ."
"Can't afford to have a loss . . . ."
"We have been lucky . . . ."
"Disasters do come . . . ."

Such excerpts from policyholder testimonials tell in simple terms the "why" of Federal all-risk crop insurance.

Increasing emphasis is being placed on getting farmers to use the self-help medium of crop insurance, where it is available, as their first line of defense against crop disaster. Each year, somewhere in the United States, farmers and communities feel the depressing impact of crop losses of varying scope. The possibility of crop disaster should be recognized in sound farm planning.

With Federal all-risk crop insurance, we are developing a sound up-to-date method whereby farmers can provide mutual protection against this risk. Farmers pay an annual premium and these premiums provide the source of the indemnities to policyholders where and when crops are destroyed.

In recent years the development of a sound basis for all-risk crop insurance has been in probably its most critical stage. This requires the establishment and maintenance of sound rate and coverage levels commensurate with the broad protection offered. The contracts provide indemnities for virtually any loss beyond the control of the producer. Of course, we could increase participation in the program by "giving" more protection for "less" premium. In fact, sustained pressure to do this has been applied to the crop insurance program because it is operated by Government. We could also have increased participation by continuing the past policy of accepting additional business, regardless of how poor crop prospects might be. Such policies, however, bring a "relief" element into the insurance operation and distort the experience record.

Once the idea is firmly established that crop insurance is to be on a businesslike basis, the long-term results will be a sounder operation and sustained participation by more farmers. While this position is being firmly established, however, the Corporation will find building business to be more difficult, particularly where experience may require higher rates than those established in earlier years.

The 1957 and 1958 experience of the Corporation clearly reveals the improvement in operational soundness that is gradually being effected. These were excellent production years in which the scope of crop disasters was more limited than usual. Such years should provide premium surpluses, and they did.

Premiums exceeded indemnities paid by more than $13 million in 1958 and by nearly $5,500,000 in 1957. The 1958 experience was the best in the 20-year history of the Federal crop insurance operation. Premiums totaled $17,676,481. Indemnities paid were $4,242,822. These favorable years served to offset loss experienced in some other years.

Basically, the plan of crop insurance is for good years to take care of poor years, so that premiums pay indemnities and build reasonable reserves against future heavy losses.

In 1958 every program showed a preliminary balance of premiums over indemnities. This pattern could change only for citrus in Florida and oranges in California, since the 1958 insurance period on these programs extends into 1959. In 1957, only the flax, dry edible bean, and citrus programs paid out more than their premium income.

Indemnities in 1958 required only 24 cents of each premium dollar, compared with 69 cents in 1957. The small peach experiment in one South Carolina county shows the highest loss ratio of 77 percent of the premium income, followed by soybeans at 49 percent and corn and flax at 45 percent. The loss ratio for wheat, the dominant part of the insurance operation, was only 16 percent, and for tobacco only 18 percent. No State required more than its premium income to pay barley, cotton, dry edible beans, flax, peach, citrus, orange, or tobacco indemnities. Indemnities exceeded premiums on corn in Indiana, Tennessee, Ohio, and Wisconsin; on multiple crop in Ohio, Oregon, Tennessee, and Wisconsin; and on soybeans in Indiana, Ohio, and South Dakota. Utah was the only State with more wheat indemnity than premium. Nine States out of 23 had wheat-loss ratios below 10 percent.

Operating changes have been initiated to facilitate protection on more crops in insurance counties. This will enable the Corporation to provide more adequate insurance service. Thus far, expansion has been largely concentrated on giving protection to additional crops in counties that now have insurance programs. In the process of strengthening the soundness of the operation, a very conservative policy has been followed on expansion to additional counties.

AGRICULTURAL CREDIT

Rural Electrification Administration

REA Bootstraps for Rural Development

Perry County, Ind., is an area of small, hilly farms, unproductive land, and vanishing forests. Two rural utilities financed by REA operate in the county: the Southern Indiana Rural Electric Cooperative and the Perry-Spencer Rural Telephone Cooperative.

Officials of the two REA borrowers are members of a USDA Rural Development Program Committee which is working hard to make Perry County a better place in which to live.

Sparked by the local co-op leaders, the Perry County group is breathing new life into a lagging economy. Their experience in bringing electric and telephone service to rural areas has proved valuable in the bootstrap operation of rural development.

Butler County, one of three “pilot counties” in Kentucky, offers another example of how rural electrification paves the way for effective rural development. All 62 families in Butler’s Little Muddy Community are served by the Warren Rural Electric Cooperative Corp., and more than half of them are participating in rural development activities. The local committee chairman declares that electrification makes possible many improvements that could not be achieved without it.

Electric Program

During fiscal 1958, rural electric systems financed by REA added 19,700 miles of line to their systems and connected 115,500 new consumers. About 75 percent of these consumers were nonfarm rural establishments. This brought total miles of line in operation to 1,414,034 and consumers served to 4,521,997.

REA has 985 active electric borrowers in 45 States, Alaska, and Puerto Rico. During the year the agency approved $241,636,896 in loans to 310 borrowers in 43 States, Alaska, and Puerto Rico, bringing the cumulative total of loans to $3,772,577,652. When construction planned or in process is completed, there will be 1,479,209 miles of line in operation and 5,088,096 consumers receiving service.

New distribution facilities accounted for 33.4 percent of the 1958 loan total; system improvements, 29.2 percent; generation, 19.8 percent; transmission, 16 percent; and consumer facilities, 1.6 percent. From inception of the REA program in 1935 through June 30, 1958, electric loans have been distributed as follows: distribution facilities, including system improvements, 77.1 percent; generation, 10.8 percent; transmission, 11.1 percent; and consumer facilities, 1 percent.

In its 23-year history REA has approved loans to 1,080 electric systems: 980 cooperatives, 49 public power districts, 27 other public bodies, and 24 power companies. These borrowers provide central station electric service to about 54 percent of the Nation's 4,564,000 electrified farms. During the calendar year 1957, farm usage of electricity averaged 291 kilowatt-hours per month, an increase of 7.8 percent over the previous year.

Net energy sales by the rural systems reached 20.7 billion kilowatt-hours in fiscal 1958. Nonfarm consumers accounted for more than half of the total power load on the REA-financed systems, and their proportion of total sales probably will continue to increase. Gross revenue of the rural systems was about $550 million, $37 million more than a year earlier. Net worth on January 1, 1958, stood at $437 million, or about 15 percent of total assets.

REA electric borrowers continued to add to their excellent financial record, paying another $77 million on the principal of their Government loans and more than $42 million in interest. They also increased their balance of payments ahead of due dates by about $20 million. Total cumulative payments by borrowers passed the $1 billion mark by the end of fiscal 1958. At the end of the year, only four borrowers were delinquent in payments amounting to $107,000.

During the year REA approved a contract between the Rural Cooperative Power Association of Elk River, Minn., and the Atomic Energy Commission for the operation of a reactor powerplant. This, the first nuclear powerplant construction underway for a rural electric system, will furnish 22,000 additional kilowatts of electricity for use by farmers and other consumers in the area. AEC will finance and own the reactor, but the conventional portion of the plant will be owned by the cooperative. The REA borrower will operate the entire plant, purchasing the reactor-produced steam from AEC, with the option to purchase the reactor at the end of the 5-year contract.

Research and development for possible installation of a nuclear reactor to produce power required for the system of the Chugach Electric Association, an REA borrower at Anchorage, Alaska, is under contract between the Atomic Energy Commission and the Nuclear Development Corp. of America. REA keeps its borrowers informed of nuclear developments and helps them negotiate agreements for the feasible use of reactors in the production of electric power.

In May 1958, REA electric borrowers launched a campaign to step up sales of electrical appliances and equipment in the interest of the national economy. This campaign, inaugurated in response to the President's March 19, 1958, letter to the Secretary of Agriculture, is being conducted in cooperation with local dealers, manufacturers, and distributors of such equipment with the focus on the local community. Some 295 systems are actively participating in this intensified sales effort, and another 166 report plans to inaugurate campaigns.

Telephone Program

During the year, REA approved 216 telephone loans totaling $89,238,000, an increase of $7,509,000 over the previous year. This brought the cumulative total of loans approved in this program to $478,459,015 Of that amount, $309,608,665 has been advanced to borrowers, including $83 million advanced during the fiscal year.

Sixty-five of the new loans went to cooperatives, 4 of them new borrowers; and 151 went to commercial companies, including 62 new borrowers. Loan applications totaling $71 million were pending at the close of the fiscal year ($31 million from existing borrowers, and $40 million from potential new borrowers).

Loans approved during the year will enable borrowers to provide new or improved service to an additional 170,462 farms and other rural establishments. Total loans approved through June 30, 1958, will provide service for 1,020,454 rural subscribers over 277,730 miles of line. At the close of fiscal 1958, REA telephone borrowers were serving more than 690,000 subscribers.

About 1,635 exchanges had been cut over to full dial operation, including 404 during fiscal 1958.

The financial condition of REA's 611 telephone borrowers—204 cooperatives and 407 commercial companies—showed progress. More than $3.2 million was repaid on principal during the year and $2.3 million of interest was paid. Total payments to the Government by REA telephone borrowers reached more than $13.4 million at the close of the fiscal year: $7,153,593 repaid on principal, $5,545,439 paid in interest, and $709,920 paid in advance of due dates. Fifteen borrowers (eight less than in the year previous) were delinquent in payments amounting to $363,138.

During fiscal 1958, significant progress was made in building better and lower cost telephone plant and facilities to serve rural subscribers. Development of new wire and cable designs has made it possible for buried plant to be used in many areas. Buried plant has many advantages. Facilities can be built faster, permitting service more quickly. Reductions in maintenance costs and longer service life can be realized, since the equipment is not exposed to the elements. Initial construction costs are much lower.

A new system of color-coded telephone cable, introduced by REA during the year, has been widely adopted by the telephone industry. Since the new 10-color arrangement does away with testing pairs of wires to identify them, the cost of conductor identification and splicing is reduced by at least 50 percent.

Other new facilities with wide application have been developed, such as multipair distribution wire, plastic-insulated cable, subscriber carrier, and extra-long-span construction. The latter concept involves a much smaller number of poles, and makes feasible service to isolated farms. The fiscal year also witnessed increased application of voice frequency repeaters to help make possible direct distance dialing. Borrowers who apply the new methods and procedures are helping to improve the overall design quality of REA-financed rural telephone systems.

Through the REA the Federal Government provides needed services which the citizens alone could not provide. The Federal Government traditionally withdraws gradually from control and complete financing of such programs when they reach a state of maturity sufficient to move ahead soundly by themselves.

In view of the sound financial condition and maturity of REA-financed systems, legislation was proposed to the Congress on February 14, 1958, providing for the development of a permanent financing plan to assure adequate future capital through the appropriate use of Federal and private funds. The Department felt this action was in keeping with the changing conditions in rural areas, the increasing demand for electric power by rural industrial and nonfarm residential consumers, and the need for more generation and transmission facilities to meet this demand.

Farmers Home Administration

In 1952 a young farm couple in Louisburg, Minn., were earning about $1,400 a year as hired hands. Today they operate a good 480-acre farm. Their gross income is more than $18,000; their net income, after family living expenses, is $4,200. Six years ago a loan from the Farmers Home Administration helped them buy the livestock and equipment they needed to start farming on their own. Farm management advice plus additional loans in subsequent years helped them expand and improve their operations.

In the 1958 fiscal year they were 1 of 366 farm families in Minnesota that graduated to private credit. In January the State Bank of Madison, Minn., refinanced the balance they owed on their FHA loans.

With the help of the FHA county supervisor and the cooperation of their landlord, this young couple worked out a sound farm and home plan. It called for seeding alfalfa each year and establishing a good rotation containing legumes as well as grain crops.

They also concentrated on a sound hog program: New alfalfa pasture each year; vaccinating for cholera; controlling worms, mange, and other parasites; and using home-mixed hog rations recommended by the University of Minnesota. By selecting only meat-type breeding animals each year, they gradually improved their swine. They used farrowing stalls which aided in saving more than 8 pigs per litter from 50 sows in the spring of 1957.

This young couple and their landlord signed up with the Soil Conservation Service and in 1957 established about 4 miles of terrace. Contour stripcropping is being used on about 70 acres. Commercial fertilizer was applied on 50 acres of alfalfa seeding after soil tests showed a deficiency in some plant nutrients.

In 1956 and again in 1957, the farm suffered substantial losses from hail; but coverage provided by both hail insurance and Federal crop insurance helped to buy corn and oats to fill the empty granaries and maintain livestock operations.

The Farmers Home Administration during fiscal 1958 made and insured loans totaling $330,162,000. This compared with $356.3 million advanced to farmers in fiscal 1957 and a 1953–57 average of $315,651,000. Many loan applicants, after discussing their credit needs with FHA county supervisors, were able to so improve their farming programs and planned use of credit that they obtained financing from sources previously unable to serve them.

An expansion of the farm housing loan program and an increase in the volume of insured loans—both of which occurred mainly in the last quarter (April–June 1958)—highlighted the year's operations.

The volume of housing loans made per month rose from an average of $1,931,000 during the first three-quarters of the fiscal year to $8,151,000 during June. The program was expanded in March as an antirecession measure and to help farmers construct and repair farmhouses and other farm buildings.

Fifty-three percent of the loans insured by FHA during fiscal 1958 were insured in the last quarter of the year. These loans are made from funds advanced by private lenders and insured by the Farmers Home Administration. The change in the money market that took place during the winter months greatly enhanced the attractiveness of these loans as investments. Throughout the year local lenders continued to be the primary source of funds for insured loans.

The increased interest in insured loans also enabled the agency to sell most of the notes held in an insured mortgage fund and return $18,758,000 from the sale of these notes to the U.S. Treasury.

Operating loans totaling $177,572,000 were made to 77,900 farmers during fiscal 1958. These loans were used to purchase equipment and livestock needed in developing efficient family-type farms, to pay farm and home operating expenses and to refinance chattel debts.

Farm ownership loans totaling $50,268,000 were made to 3,890 farmers. Forty percent of the funds were used to develop family-type farms and enlarge smaller farms to economic size. Farm ownership loans were also made to buy family-type farms and refinance existing debts. About $26,270,000 of the total consisted of funds provided by private investors and insured by the agency.

Soil and water conservation loans amounting to $5,733,000 were advanced to 810 farmers and 46 associations. Of this total, $1,170,000 was insured. These loans are used mainly to develop irrigation and farmstead water systems and to carry out soil conservation practices.

Farm housing loans, made to 4,944 farmers, totaled $33,066,000.

There were 24,260 emergency loans made in areas where floods, heavy frosts, and other emergency conditions brought a need for supplemental credit. The total amount of $63,523,000 included $5,404,000 advanced under the special livestock loan program.

Collections during fiscal 1958 of principal and interest on loans outstanding came to $316,391,000, compared with $294,623,000 in fiscal 1957 and 1953–57 average of $268 million.

As of June 30, 1958, outstanding loans totaled $1,070 million, about $57 million more than on June 30, 1957.

Approximately 207,000 farmers, including those still using credit received in previous years, made use of FHA credit service during 1958. All loans were accompanied, to the extent necessary, by technical assistance in planning and carrying out sound farming operations.

More than 37,400 borrowers repaid their loans in full during the year.

RURAL DEVELOPMENT PROGRAM

The Rural Development Program, now going forward in 30 States,[2] continues to show steady progress. Each year since its inauguration in 1955, there has been an expansion to additional areas of need.

The primary objective of this program is to provide sound and practical assistance for the more than one-half of America's farm families who produce little for market. This involves expansion of off-farm jobs of a wide variety including timber work, tourist activities, employment in nearby towns, industries and trade; development of efficient family-size commercial farms; and special programs of education, vocational training, and guidance.

Five Federal departments—Interior, Agriculture, Commerce, Labor, and Health, Education, and Welfare—and the Small Business Administration are cooperating in the program with State land-grant colleges and universities and other agencies. In rural communities where the program is going forward, farm, business, civic, educational, and church leaders provide day-to-day direction, adapting the program to the needs of the community.

Here are some outstanding development projects put into action by citizen-leaders and agency workers participating in the Rural Development Program—

Approximately 1,800 additional jobs in rural industries and new agricultural and marketing enterprises assisted by the Rural Development Program are reported in a representative group of 24 pilot counties. This is in addition to industrial and market enterprises reported previously. For example, in Berkeley County, S.C., resource and manpower studies assisted in rural industry promotion, and the local Rural Development Committee helped establish several small industries, which brought 200 new jobs to the county last year.

Small farmers in the Pulaski-Alexander two-county area in Illinois have entered into a vegetable production and marketing plan which should increase incomes and improve farm operations generally. One participating farmer

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[2] Alabama, Arkansas, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Mexico, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, Washington, West Virginia, Wisconsin, Puerto Rico.

realized $1,000 from the sale of green beans, the first time he ever produced this crop commercially.

As a result of educational work of the Franklin Parish, La., Rural Development Committee and the extension agent assisting the committee, about 3,000 acres of grain sorghums were produced during 1957–58. The prospect of increased grain production influenced a local businessman to build an elevator, which in its first year of operation furnished a market for 95,000 bushels of grain and soybeans grown on 200 small farms. Receipts of farmers were well over $180,000.

Soon after a rural development committee was organized in Santa Fe County, N. Mex., early in 1957, its members began the job of improving markets. Cooperating with local fruit growers, they assembled data on the need for a consolidated fruit market. its cost, and method of organization. New Mexico's College of Agriculture furnished expert advice and assistance in the project. Growers agreed to form a marketing cooperative. A grading and packing shed went into operation, providing a premium market for good quality fruit. For the first time, Santa Fe producers have the benefit of an organized, regular market for their fruit.

People in Sawyer County, Wis., launched a major lake and stream improvement program, which will strengthen soil and water conservation and increase recreation opportunities in the county. The project includes enlargement of six small lakes, and one stream clearance and improvement. Towns and communities are cooperating by taking responsibility for the project, with "work committees" of local people doing much of the actual construction. The Sawyer County Rural Development Committee, with aid from the extension service, is coordinating and promoting this project, countywide.

Such activities have opened up opportunities for thousands of families on small, low-income farms.

In late 1958, a total of 102 rural counties were participating in the program. However, in recent months local committees, private organizations, and Federal and State agencies contributing to the Rural Development Program have widened its impact beyond demonstration areas. In Michigan, Minnesota, Missouri, New Mexico, Nebraska, and Indiana, the program is now being widened to include entire areas, using the rural development approach, and in Texas present area work is being broadened. Oklahoma State University also issued preliminary studies recommending an area development program covering a group of eastern rural counties.

State agencies represented on State rural development committees and responsible for broad service programs in the fields of job placement, area and community development, rural health and education, conservation and forestry have increased their contribution to the program. They have a vital interest in the research and project phases of the Rural Development Program and cooperative arrangements established between local private citizens and agency workers.

Responsibilities and assignments in the Rural Development Program are now a part of the regular activities of Department of Agriculture agencies. The program is supported principally through a redirection and strengthening of services already in the field, with emphasis on new methods and approaches. For example, in 1957–58, the Department of Agriculture again made special allocations to State extension services for assistance to local committees directing rural development work. Some 160 extension workers have been assigned to the program. The Soil Conservation Service, Farmers Home Administration, State and Federal Forest Services, State and county Agricultural Stabilization and Conservation Committees, research agencies of the Department of Agriculture, and others have directed resources into State programs. The Farm Credit Administration is actively cooperating.

SCS contributed approximately 58 man-years in 68 counties for soil mapping, on-farm conservation planning, watershed development, drainage, and other technical assistance phases of the program.

Dr. Harry J. Reed, national coordinator for the program, visited more than 20 States during the year, meeting with State and local program committees and helping interested groups gain a better understanding of the program and its tremendous potential.

Finally, in 1957–58 national private organizations showed a growing interest in the objectives and progress of the program.

In June, prominent representatives of 160 private organizations met in Memphis, Tenn., with officials of 31 land-grant colleges and universities and State and Federal personnel representing 44 agencies to discuss the program.

Out of this meeting came a clearer understanding on the part of private organizations and their membership regarding the need for balanced farm, industry, and community development in low-income rural areas, and their place in the program.

Already, we are seeing early fruits of this interest and understanding. A national church group has assigned personnel to the Rural Development Program. Several trade associations and firms issued brochures at their own expense, encouraging their membership to become active in county and area projects. Participation of private national organizations, with their vast resources and skills, is materially assisting in the program.

Expansion into multicounty areas in some States; integrating the Rural Development Program with existing programs of the Department of Agriculture and other departments and agencies of the Federal Government; increased participation by State agencies; a larger contribution from private national organizations—these important developments are widening the impact of the program far beyond the original pilot counties and areas.

The success of the program, nationwide interest, and active participation of rural people clearly indicate the soundness of this new approach to the age-old problem of chronic underemployment and low incomes on many of the Nation's farms.

DEFENSE PLANNING ACTIVITY

Many peacetime activities of the Department have a direct bearing on essential functions in a mobilization period. Food planning for civil defense and defense mobilization is carried out through existing operating units. This is true also of planning related to rural fire defense and defense against biological and chemical warfare and radioactive fallout. These activities are coordinated by a single defense staff in the Commodity Stabilization Service. Consistent with the recent consolidation of the Federal Civil Defense Administration and the Office of Defense Mobilization, the Department has centralized liaison responsibilities for defense in this coordination staff.

During the year progress has been made in defense planning, although further work remains to be accomplished. A set of basic standby orders has been prepared. These orders can be put into effect immediately should the need arise. The Department has cooperated closely with the Office of Civil and Defense Mobilization in a review of the National Plan for Civil Defense and Defense Mobilization, and has developed or contributed to appropriate annexes to this plan.

Defense plans were tested when the Department took part in Operation Alert 1958. This exercise involved wide participation at both Washington and field levels.

THE 1958 RECORD AND OUTLOOK

Domestic demand for farm products in calendar year 1958 continued to be strong, and the total of agricultural exports was among the highest of record.

Farm product prices rose 6 percent in 1958, with increases in the prices of meat animals, eggs, citrus fruits, and vegetables mainly responsible. The total volume of marketings was also about 6 percent higher than in 1957. Part of this increase reflected delayed marketings of 1957 crops, such as corn and cotton, from the large stocks on farms at the beginning of 1958. Consequently, cash receipts from farm marketings in 1958 were about 12 percent more than a year earlier. Government payments were also up a little. Though production expenses rose about 6 percent, the result of all these changes was a sharp rise of more than a fifth in realized net income.

The 1958 farm output reached a new high, 23 percent above the 1947–49 average, and 8 percent above 1957. Production of livestock and products was up about 2 percent from 1957, reflecting a substantial increase for poultry and a slight gain in output of meat animals. The output of crops was 11 percent more than the 1957 record. There was tremendously heavy production of food grains, feed grains, and oil crops, with about 1957, but below average, output of cotton and tobacco. Production of vegetables, fruits, and nuts was a little above

1957, while output of sugar crops and hay and forage was about the same as in 1957.

Livestock and Livestock Products

Both cattle and sheep inventories on farms rose in 1958. The 1958 spring pig crop was only 1 percent larger than the 1957 crop, but there was a 17-percent rise in the fall crop. These uptrends in production will result in larger marketings of hogs in 1959, and of cattle in a later year.

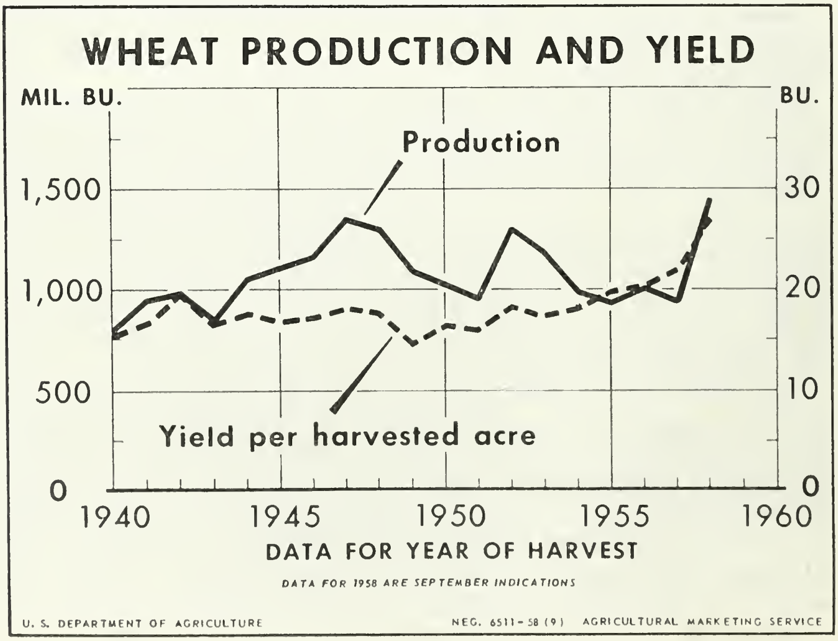
Milk production leveled off to about 125.2 billion pounds in 1958, falling slightly below the high of 125.9 billion pounds in 1957 but otherwise the highest on record. Consumption of cheese showed a substantial gain, but for other dairy items there was little change, except for another substantial drop in evaporated milk.

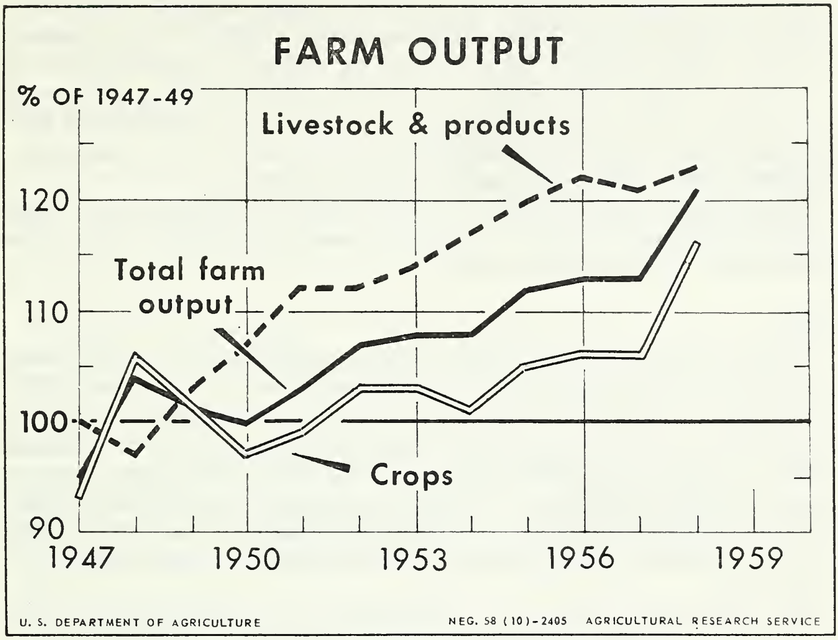
Another record output of broilers in 1958 was the basis for a continued sharp jump in per person consumption of chicken. Per capita use of turkey and eggs declined slightly from 1957.

Egg production of 5,379 million dozen was at a high level in 1958, but slightly below 1957, and considerably less than the record 5,479 million dozen of 1956.

Wheat

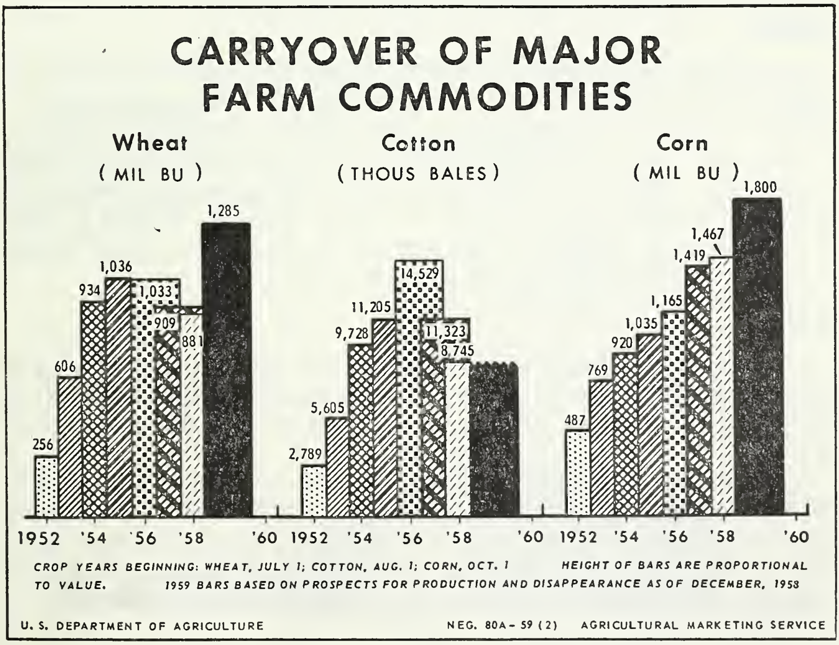
Exports of wheat totaled 402 million bushels in 1957–58, well above the 1951–55 average of 326 million bushels, but 147 million bushels below the 1956–57 record. Owing to these large exports, the July 1,





FARM OUTPUT

U. S. DEPARTMENT OF AGRICULTURE NEG. 58 (10)-2405 AGRICULTURAL RESEARCH SERVICE



CARRYOVER OF MAJOR FARM COMMODITIES

CROP YEARS BEGINNING: WHEAT, JULY 1; COTTON, AUG. 1; CORN, OCT. 1 HEIGHT OF BARS ARE PROPORTIONAL TO VALUE. 1959 BARS BASED ON PROSPECTS FOR PRODUCTION AND DISAPPEARANCE AS OF DECEMBER, 1958

U. S. DEPARTMENT OF AGRICULTURE NEG. 80A-59 (2) AGRICULTURAL MARKETING SERVICE

1958, carryover was slightly reduced from a year earlier. Due to the alltime record crop of 1958, wheat supplies in 1958–59 are estimated at 2,352 million bushels. These supplies consist of the carryover of 881 million bushels, the 1958 crop of 1,462 million bushels, and imports of 9 million. Domestic disappearance is estimated at about 615 million bushels and exports at 450 million. This would leave a carryover of about 1,285 million bushels as of July 1, 1959.

The per acre yield of wheat in 1958 reached an alltime record high, and resulted in the largest crop ever produced, output being more than 50 percent larger than in 1957.

Feed

Following an upward trend that has been underway since 1952, total feed concentrate supplies in each of the last 3 years have exceeded 200 million tons. The total supply for 1957–58 reached a record high of 219 million tons, 19 percent above the 1952–56 average. The record 1958 crop raised the total supply for 1958–59 to 246 million tons, a rise of another 12 percent. Despite increased consumption of feed grains, carryover stocks may reach a record high of about 75 million tons by October 1, 1959, nearly four times the carryover existing 7 years ago.

The 1958–59 corn supply was estimated to be 5.3 billion bushels. A corn carryover of about 1.8 billion bushels is in prospect for October 1, 1959, 330 million bushels more than a year earlier.

Cotton

Because of an anticipated further decline in exports to about 3.5 million bales (compared with 5.7 million bales a year earlier, and 7.6 million in 1956–57), disappearance of cotton during the 1958–59 marketing year is expected to be substantially below the 13.6 million bales of 1957–58. With the 1958 crop of 11.5 million running bales, the carryover is expected to be about 8.7 million bales by August 1, 1959, the same as a year earlier. This, however, is sharply below the record carryover of 14.5 million bales reached in 1956.

Tobacco

Production of tobacco of all types in 1958 was estimated at 1,758 million pounds, 5 percent above 1957 but 18 percent below the 1947–56 average. The average yield per acre, 1,626 pounds, was the highest of record.

A record number of cigarettes—470 billion—were manufactured in 1958, with about 96 percent of the total output used by U.S. smokers. Cigar output was estimated at about 6.6 billion, the highest since 1929. Use of sheet tobacco in some brands of cigarettes has helped manufacturers turn out more cigarettes per pound of raw tobacco.

Exports of unmanufactured tobacco in 1958 totaled 482 million pounds, 4 percent lower than a year earlier but close to the recent 10-year average.

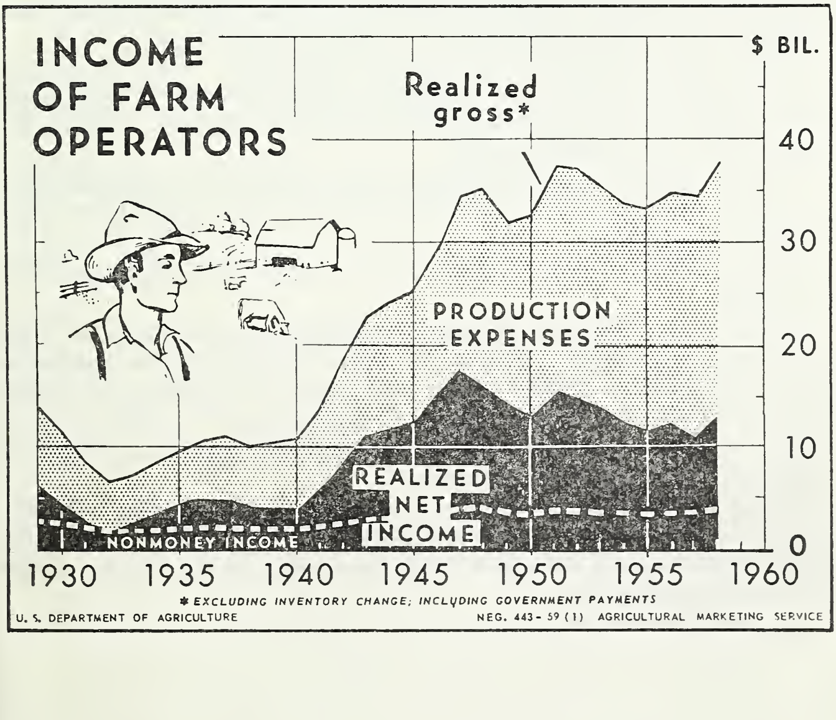
Fats and Oils

Supplies of food fats and oils reached a record 13.4 billion pounds for the marketing year beginning October 1, 1958. This total was about 15 percent greater than the 11.7 billion pounds supply a year earlier. The 1958 soybean crop, at 574 million bushels, set a fifth consecutive record for soybean production and almost doubled the 10-year average.

Domestic disappearance of food fats per person in 1958–59 is expected to continue at about the same rate as in 1957–58—45.4 pounds (fat content). With the population increasing, however, total use will be up. Exports of food fats in 1958–59 are expected to total around 2.9 billion pounds, substantially greater than the 2.6 billion pounds exported in 1957–58. Sales for dollars plus exports under Public Law 480 are expected to result in a heavy outward movement. But competition in world markets is likely to continue keen as exportable supplies in several foreign countries remain large.

Food Consumption

Total domestic utilization of food in 1958 was about 3 percent above 1957 and equal to the 1956 record. Civilian consumption of food per capita in 1958, however, was 1 percent lower than in 1957, and about



INCOME OF FARM OPERATORS

* EXCLUDING INVENTORY CHANGE; INCLUDING GOVERNMENT PAYMENTS

U. S. DEPARTMENT OF AGRICULTURE NEG. 443-59 (1) AGRICULTURAL MARKETING SERVICE

3 percent below 1956. Reduced supplies of meats and fresh fruits and vegetables have accounted for most of the decline in per capita consumption and the increase in retail prices. In recent years, food consumption per person has continued to average about 11 or 12 percent above the rate for 1935–39.

Farm Income

Farmers sold $33.2 billion worth of crops, livestock, and livestock products during 1958. This was 12 percent more dollars than they received in 1957.

Farmers' gross income set a new record of $38 billion in 1958, exceeding the previous peak of $37.3 billion set in 1951 when the Korean war boom sent prices received by farmers to an alltime high. The 1958 gross income was 10 percent above 1957.

Farmers' production expenses in 1958 rose 6 percent to $24.9 billion, but not nearly enough to offset the increase in gross income.

Farm operators' realized net income for 1958 was estimated at $13.1 billion, up 20 percent from 1957. Net income per person on farms, from all sources, rose 10 percent in 1958 to $1,068. This was 9 percent above the previous high of $983 in 1951. All of the 10-percent gain in 1958 over 1957 was due to higher income from farming, as income from nonfarm sources declined slightly.

A LOOK AHEAD

Agricultural abundance is one of the cornerstones of our economy. But farmers and the entire citizenry need assurance that our farm programs will allow abundance to be put to good use.

No one wants less effective programs for farmers. On the contrary, we must replace policies and programs which have failed with measures which will assure the American farmer his rightful share in the abundance of our free economy.

There is reason for great optimism about the future of agriculture—provided we cling fast to the methods and ideals which have made this Nation great.

There are many basic reasons why our agricultural future should be bright.

First, we can expect an expanding domestic market and we hope for growing foreign markets. In 1940 our population numbered about 132 million. Today we are more than 175 million, and within the next decade the Nation may well have over 200 million. Moreover, our people are interested in better diets—and this presents a challenge for sound food promotion.

World population, too, has been increasing. Many areas will continue to look to surplus-producing land, such as the United States, for food. There is real hope, therefore, for an expanding export market for our farm products.

Second, there is hope that future Government programs will be geared to more realistic production—that we shall not continue to freeze production in uneconomic patterns—that our programs will provide proper incentives for agriculture to adjust output of specific commodities according to demand.

Third, the efficiency of agricultural production will rise—and as efficiency rises, costs can come down. We must continue to emphasize programs of agricultural research and education.

Fourth, farm people will benefit by improvements in marketing. In the past, most of the effort in agricultural research and education has been directed toward improving methods of production. Thus, productive efficiency has bounded ahead, but progress in marketing methods has lagged. The remedy for this lack of balance is to give more emphasis to marketing and utilization research as we are now doing.

Finally, a sound economy will create an economic climate in which farm prosperity can flower and grow. And, conversely, a strong productive agriculture will be one of the pillars of a flourishing national prosperity.

This we know: Great opportunities confront our farm families—great opportunities accompanied by great responsibilities. Our Nation of the future will derive much of its vitality from the strength of our agriculture.

With the help of a kind Providence, let us get on—now—with the job of building a prosperous, expanding, and free agriculture in a prosperous, expanding, and free America—an America which is economically, socially and spiritually sound.

U.S. GOVERNMENT PRINTING OFFICE: 1959